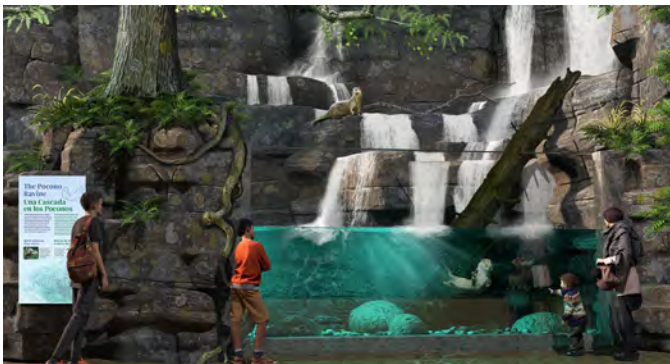


Da Vinci Science Center - Allentown, PA

\$30M NMTC ALLOCATION REQUEST

A new, expanded facility for Da Vinci Science Center to meet surging demand for STEM and Arts programs, with 485,000 visits anticipated annually in a Severely Distressed community.

44% Poverty Rate | 29% Median Family Income | 20% Unemployment Rate



“Being willing is not enough, we must do.”

-Leonardo da Vinci

Interested parties should contact:



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Executive Summary

GOAL: To secure \$30M New Markets Tax Credit allocation for the Da Vinci Science Center in Allentown, PA, with an anticipated closing date of Q1/Q2 of 2022. Truist Bank has issued term sheets for leveraged debt and NMTC Equity.

PROJECT: The Da Vinci Science Center’s current facility is not large enough to accommodate demand, is not within easy walking distance of many of Allentown’s low- and moderate-income neighborhoods, and has limited public transit access. Plans for the new 67,000 square foot (sf) facility include 30,000 sf of science exhibit space, a 9,579 square-foot STEAM (Science, Technology, Engineering, Arts and Math) Learning Center, and numerous other features.

SPONSOR: The Da Vinci Discovery Center of Science and Technology, Inc. is a 501(c)(3) corporation that serves the greater Lehigh Valley metropolitan area, providing both informal and formal STEM (Science Technology, Engineering and Math) and STEAM (STEM + the Arts) education programs at its main facility in west Allentown and through the delivery of educational outreach programs. The Da Vinci Science Center's roots were planted in 1992 when Lehigh University in Bethlehem formed the Science Model Area Resource Team (SMART) to provide interactive science experiences for local students. The SMART Center left Lehigh to become an independent non-profit in 1999. Its current operation engages more than 150,000 participants annually, with a total annual budget of approximately \$3.9 million. The project will be developed by Da Vinci Science City, LLC; a wholly owned subsidiary of which the Da Vinci Discovery Center of Science and Technology, Inc. is the sole member.

SITE: The 1.25 acre site in downtown Allentown is located at 18-28 North 8th St. and is immediately adjacent to numerous residential neighborhoods consisting predominantly of households of low and moderate incomes. The site was selected specifically because of its proximity to underserved audiences as well as its location within an area of the downtown that is experiencing significant investment and revitalization. The site’s Census Tract (42077009700) has a 44% poverty rate, 29% of the area median family income, and a 20% unemployment rate. The site is NMTC “Severely Distressed,” and also qualifies as a Neighborhood Improvement Zone, Opportunity Zone, HUB Zone and Food Desert.

BENEFITS: According to an independent market study the project is expected to serve 485K individuals annually, with many attracted from the surrounding disadvantaged neighborhoods in programs for students, adults and community events. Staffing is estimated to be 49 full time and 28 FTE part time employees (77 FTEs) with annual payroll of \$4.0M.

BUT-FOR: NMTCs are needed to close a \$5.7M funding gap caused by: 1) the project cannot support any debt paid from operational revenues; all potential outside sources of capital have been fully utilized but a gap still exists, 2) this project is experiencing higher than usual construction costs due to the special purpose nature of the facilities, and 3) the project must keep pricing affordable to disadvantaged individuals and businesses that can benefit from the Center. Additional information can be found in the attached Intake Form.

STATUS: The project sponsor has site control and a term sheet from Truist Bank (formed in merger of BB&T and SunTrust) for a \$20M bond issue that is backed by \$16M in funding from the Commonwealth of PA over ten years, and \$5.8M in projected financing over 22 years made possible by its location in a Neighborhood Improvement Zone tax incentive district, in addition to \$13.6M in committed donations and another \$3.2M pending (see CPA certification in the Appendix); Truist has also issued a term sheet for a NMTC Equity Investment. Anticipated sources & uses of funds are as follows:

Sources & Uses of Funds \$30M in NMTCs					
Sources	%	Amount	Uses	%	Amount
Bond issue - Truist (term sheet issued)	28.7%	\$20,000,000	Project budget	84.9%	\$ 59,100,000
Private donations paid thru 2/2024 (bridged)	14.7%	10,200,000	Misc/contingency	5.5%	3,800,000
New Markets Tax Credits (based on \$30M NMTC)	12.9%	9,009,000	Financing costs	4.8%	3,359,000
PA RACP (2 rounds)	12.9%	9,000,000	Subtotal project budget	95.2%	66,259,000
Private donations - paid after 2/2024 (bridged)	12.4%	8,600,000	NMTC fees		
HUD - City of Allentown Section 108	8.0%	5,600,000	CDE Fees - 5% at close + 50 bps/yr compliance	3.7%	2,550,000
GEDTF - State Appropriation - 2020 and 2021 pmts	5.7%	4,000,000	Placement fee - NMTC consultant (1% of \$30M)	0.4%	300,000
US Community Funded Project	4.3%	3,000,000	Legal	0.7%	500,000
Local County and City	0.3%	200,000			
Total sources	100.0%	69,609,000	Total Uses	100.0%	69,609,000

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Project Description



The requested NMTC allocation will support construction of a major new science center and STEAM (Science, Technology, Engineering, Arts and Math) learning facility in downtown Allentown. The new facility is being constructed to meet surging demand for STEAM education, as the integration of STEM disciplines with the Arts has proven to be a highly effective method of encouraging creativity and innovation in educational settings. The STEAM Learning Center will offer classes, workshops and other educational activities to school children and their families that are specifically developed to serve residents within walking distance of the facility. STEAM facilities will include specialized workshop laboratory and training spaces that will provide local residents with opportunities to receive education and training in order to meet regional needs for a workforce that is scientifically and mathematically literate. It is anticipated that 200,000 primarily low-income students will receive education and training in STEM technology annually. The greatest impact will be on the 17,000 K-12 students in Allentown School District, the 3rd largest in the state, with 77% of the student body coming from families classified as economically disadvantaged, and 17% who speak English as a second language.

The Da Vinci Science Center's current facility (pictured below), on the campus of Cedar Crest College in west Allentown, is not large enough to accommodate demand, and it cannot be expanded to meet future needs. The current facility also is not within easy walking distance of many of Allentown's low- and moderate-income neighborhoods and has limited public transit access. Plans for the new 67,000 square foot (sf) facility includes 30,000 sf of exhibit space, a 9,579 square-foot STEAM Learning Center, and numerous other features. This new facility will be more than two times the size of Da Vinci's current facility, and will enable the Science Center to offer programs and services on par with other major science centers in the northeastern United States.

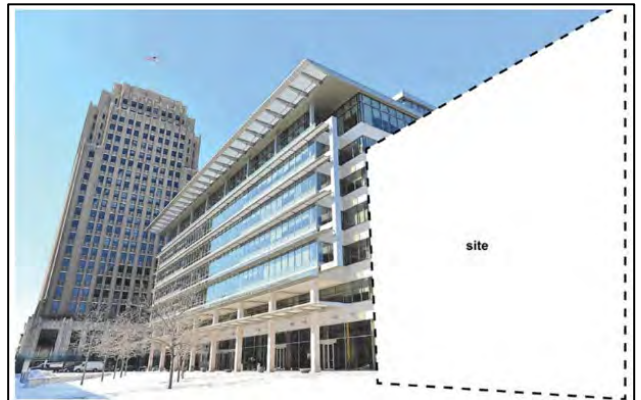


The downtown Allentown site is within the City's Neighborhood Improvement Zone (NIZ), and immediately adjacent to numerous residential neighborhoods consisting predominantly of households of low and moderate incomes. This site was selected specifically because of its proximity to underserved audiences as well as its location within an area of the

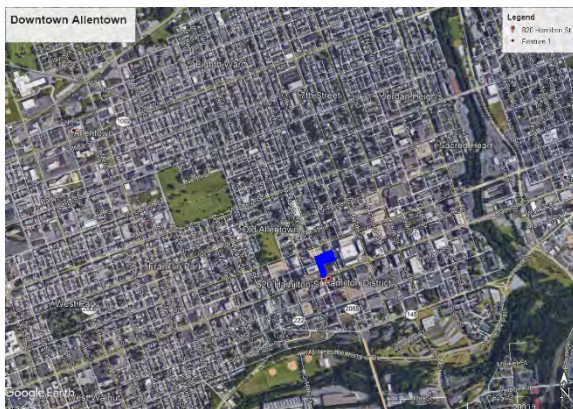
downtown that is experiencing significant investment and revitalization. Consisting of three parcels of land, the largest (0.96 acre) is under a Letter Agreement with the owner for a purchase price of \$1,650,000, the two smaller parcels (0.22 acre in total) are owned by the City of Allentown, which has agreed to convey the parcels to the Science Center at no cost.

Features include:

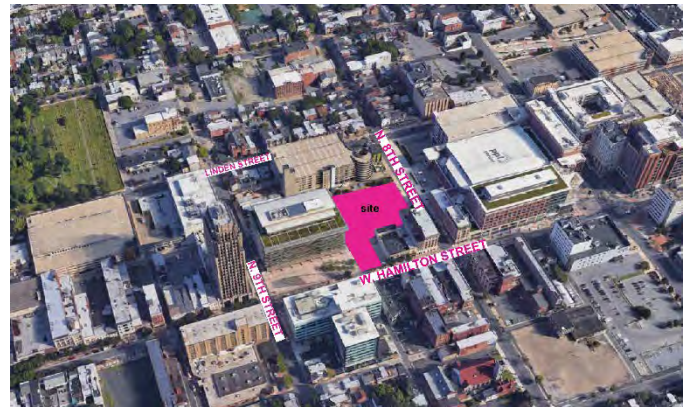
- 1.25 acres
- Located in the center of Downtown Allentown
- Parking is available in adjacent parking deck, on street, and other nearby facilities
- Court St. will accommodate buses and drop-off at the rear of the building
- The Entry Plaza is adjacent to the Grand Plaza building, which is described as an “8-story marvel of sustainable engineering at the center of downtown Allentown’s bustling Hamilton Street quarter.
- The site is immediately adjacent to residential neighborhoods comprised of predominantly low - and moderate - income households. A priority target market is within a 20- minute walk (approximately 1-mile) of the facility. Within this area is a mostly residential neighborhood comprising approximately 17,066 households, with a total population of 52,596. City of Allentown census data indicates that 72.7% of households within the target area are of low and/or moderate income. This equates to 12,413 LMI households and an estimated LMI population in the target area of 38,237 individuals.



Aerial Views



Aerial View of Site (Blue) and Surrounding Neighborhoods



Aerial View of Downtown Allentown and Site (Pink)

Financial Analysis

Sources & Uses of Funds

The capital stack contains a variety of sources, as follows:

Sources & Uses of Funds \$30M in NMTCs		
Sources	%	Amount
Bond issue - Truist (term sheet issued)	28.7%	\$20,000,000
Private donations paid thru 2/2024 (bridged)	14.7%	10,200,000
New Markets Tax Credits (based on \$30M NMTC)	12.9%	9,009,000
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Private donations - paid after 2/2024 (bridged)	12.4%	8,600,000
HUD - City of Allentown Section 108	8.0%	5,600,000
GEDTF - State Appropriation - 2020 and 2021 pmts	5.7%	4,000,000
US Community Funded Project	4.3%	3,000,000
Local County and City	0.3%	200,000
Total sources	100.0%	69,609,000
Uses		
Project budget	84.9%	59,100,000
Misc/contingency	5.5%	3,800,000
Financing costs	4.8%	3,359,000
Subtotal project budget	95.2%	66,259,000
NMTC fees		
CDE Fees - 5% at close + 50 bps/yr compliance	3.7%	2,550,000
Placement fee - NMTC consultant (1% of \$30M)	0.4%	300,000
Legal	0.7%	500,000
Total Uses	100.0%	69,609,000

Sources of Funds line item detail: the current status and description of each of the sources of funds is as follows:

- 1) **Truist Bond Issue:** a \$20M, fixed rate, tax exempt bond issue will be underwritten by Truist Financial Corporation, which was formed as a result of a merger between BB&T and SunTrust Bank. The Conduit Issuer is the Allentown Neighborhood Improvement Zone Development Authority. The stated purpose of the bond issue is to (i) fund certain costs associated with the Project, which may include funding a leverage loan associated with New Markets Tax Credits financing associated with the project, (ii) possibly fund a Debt Service Reserve Fund, and (iii) pay costs of issuance of the Bonds. The Series 2022 Bonds will be issued in 2 series as follows:
 - a. Series A: secured by a senior lien on Neighborhood Improvement Zone Tax Revenues generated by the Borrower at the Project site (the “NIZ Revenues”).
 - b. Series B: secured by Gaming Economic Development and Tourism Fund revenues granted to the Borrower in the amount of \$2 million annually through 2029.

A term sheet can be found in the appendix.

- 2) **Private donations** – anticipated donations to be received thru 2023, not requiring bridge financing.
- 3) **New Markets Tax Credits (based on \$30M NMTC):** the site is NMTC eligible and in a “Severely Distressed” Census Tract due to a 44% poverty rate and median family income that is 29% of the Lehigh Valley Metropolitan Statistical Area. Truist Financial Corporation as issued a term sheet to be the NMTC Equity Investor, which can be found in the appendix.
- 4) **PA RACP (2 rounds):** Redevelopment Assistance Capital Program is a Commonwealth grant program administered by the Office of the Budget for the acquisition and construction of regional economic, cultural, civic, recreational, and historical improvement projects.
- 5) **Private donations - paid after 2023 (bridged):** anticipated private donations to be paid after 2023, a bridge loan will make a portion of these funds available at closing of the funding.
- 6) **HUD - City of Allentown Section 108:** The City of Allentown has formally applied to HUD for a Section 108 loan.

- 7) **Neighborhood Improvement Zone (NIZ):** The NIZ program allows state and local taxes collected from properties the NIZ through 2046 to be used to repay debt service and bonds issued by the Allentown Neighborhood Improvement Zone Development Authority to fund various economic development projects within the zone, including Da Vinci Science City.
- 8) **Lehigh County:** anticipated grant funding from the Lehigh County Economic Development Authority.
- 9) **EDA:** the federal Economic Development Administration provided a planning grant for the project. The Science Center intends to submit an application for an implementation grant to support construction.

Uses of Funds Line Item Detail:

- 1) **Project budget:** hard and soft construction costs.
- 2) **NMTC fees**
 - a. **CDE Fees - 5% at close + 50 bps/yr compliance:** estimate based on industry standards of fees paid to Community Development Entities that provide NMTC sub-allocation to the project. Fees are estimated to be 5% at closing and a compliance monitoring / asset management fee of 50 basis points annually over the 7 year NMTC compliance period, or 3.5% total, all based on raising \$30M in NMTC allocation.
 - b. **Placement fee - NMTC consultant (1% of \$30M):** a success fee paid to NEPA Alliance and CBO Financial, which prepared this request and will coordinate the process to closing.

The net benefit to the project provided by NMTCs is estimated as follows:

Net Benefit of NMTCs - Based on \$30M NMTC Raise		
NMTC equity - gross		\$ 9,009,000
Less:		
CDE Fees - 5% at close + 50 bps/yr compliance		(2,550,000)
Placement fee - NMTC consultant (1% of \$30M)		(300,000)
Legal related to NMTC		(450,000)
Net benefit:		5,709,000

- 3) **Legal:** anticipated fees associated with closing; a significant portion will be dedicated to documenting the NMTC transaction.

Cash Flow Forecast

Cash flow is forecast below, based on a midrange attendance estimate of 400,000 visitors, a conservative estimate that is 20% below the annual visitor count in the market research study that is included in the appendix:

Da Vinci Science City Pro-forma Income Statement		
Visitors:		400,000
REVENUE		
Earned - Attendance Driven		
Admissions / Members		\$5,261,575
Special Exhibitions		853,100
Food Service (DSC Share)		162,450
Retail Sales (DSC Share)		178,600
	Sub-Total	6,455,725
Earned - Other		
Events (DSC Share)		750,000
Reserved Programs - In Building		600,000
STEAM TEAM Programs		260,000
	Sub-Total	1,610,000
Total Earned		8,065,725
Total Contributions		1,400,000
Total Revenue		9,465,725
EXPENSES		
Salaries and Benefits		4,866,755
Occupancy		476,471
Exhibit Rental		727,965
Reserved Program		163,609
Supplies/Fees		
Event Costs		112,500
Other Exhibit Expense		287,760
Promotion		643,579
Admission System/Fees		251,643
Other G&A		450,000
Total Expenses		7,980,283
EBITDA		1,485,442

The estimated breakdown of staffing requirements is as follows:

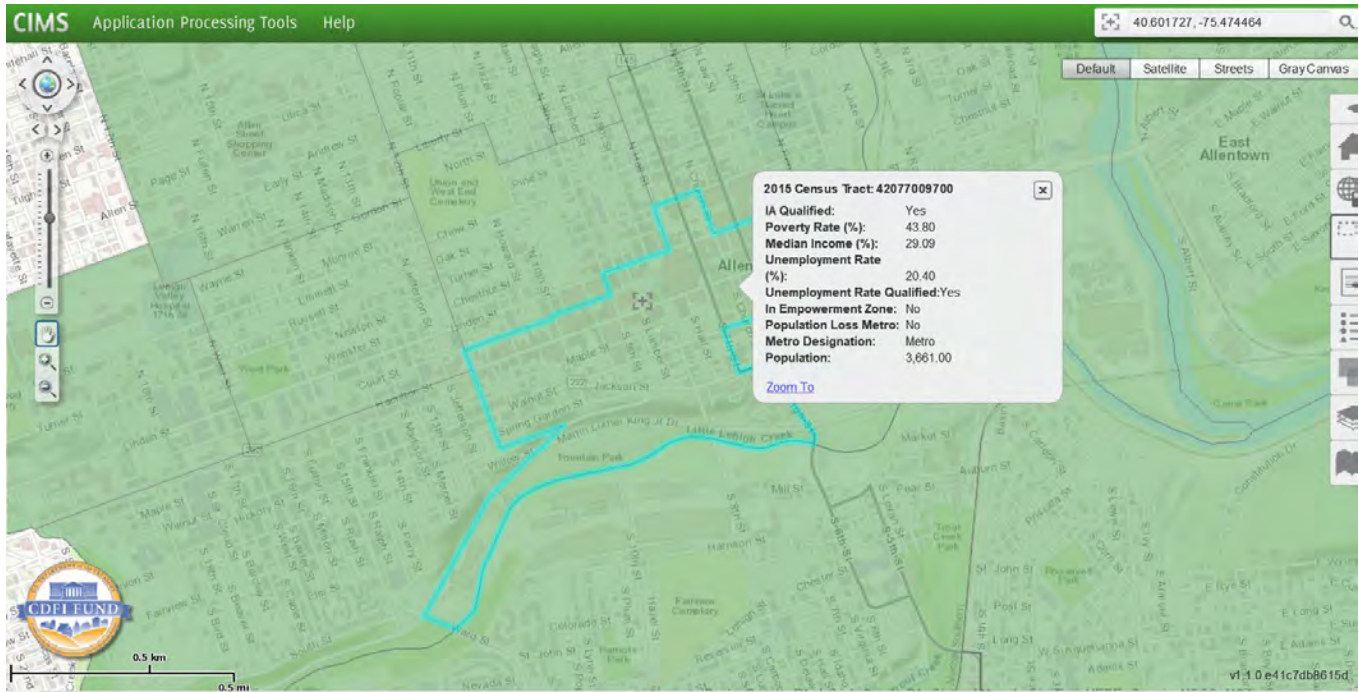
Da Vinci Science City Staffing Requirements			
	Full Time	Part Time	FTE Total
Operations	38	23	61
STEAM Team	8	4	12
Philanthropy	4	-	4
Total FTE	50	27	77
Salaries & benefits			\$ 4,866,755

New Markets Tax Credit Eligibility & But-For

Below are NMTC eligibility details:

ACS Year 2011 - 2015 Census Tract #	Qualifies as NMTC Eligible?	Severely Distressed?	Poverty Rate	% of Bench marked Median Family Income	Unemployment rate	Metro \ Non-Metro	ACS Population
42077009700	yes	Yes	43.8	29.09	20.4	Metro	3661

A screenshot from the CDFI Fund’s mapping tool:



The site location also qualifies as:

- Opportunity Zone
- Neighborhood Improvement Zone
- HUB Zone
- Food Desert

NMTC But-For

The project is not feasible without the requested allocation due to the high level of poverty in the area, which sharply limits how much the science center can charge. This project has been carefully and purposefully designed to accomplish two overarching objectives: 1) to serve as a major new destination in downtown Allentown attracting an estimated 485,000 visitors annually and 2) to serve as a major STEAM education resource for the region with a special focus on low- and moderate-income residents of Allentown. The cost of developing a facility of this quality with world-class exhibits is significant as it will need to be competitive with similar facilities in the nearby Philadelphia and New York City markets in order to be successful. Because of the educational nature of the facility and its focus on serving low- and moderate income individuals regardless of their ability to pay, the project will rely upon a mix of earned and contributed revenues to sustain itself operationally and thus cannot support any debt that would need to be paid from operating cash flow. All of the capital needed for the project must be raised from public and private funding sources. Based on the progress to date in fundraising for the project, the Science Center is confident of its ability to raise \$63.6 million of the projected \$69.6 million project cost from public and private sources, with sufficient funds in place by December 31, 2021 for groundbreaking in April 2022. A \$30 million New Markets Tax Credits financing that would yield approximately \$6 million in funding to the

project would fill the funding gap needed to complete exhibition development, enabling exhibit fabrication to commence in July 2022, and put the facility on track to open to the public in early 2024. The \$63.6 million that the Science Center anticipates raising for this project will represent the largest amount ever raised for a project of this type within the Lehigh Valley, an area with limited capacity for private philanthropic support. New Markets Tax Credits are being sought to fill the investment gap that will bring this world-class facility to the third-largest metropolitan area in the state of Pennsylvania.

Da Vinci Science Center Overview

Open for ExSCiting Possibilities. The Da Vinci Science Center’s slogan represents the inspiring essence of its evolution since 1992 into a national award-winning science center and industry leader.



Today’s Da Vinci Science Center experiences and partnership efforts inspire kid’s interest in STEM subjects by presenting them in informal, creative, and interesting ways. By awakening students’ interests and promoting fundamental skills, the Center and its partners inspire and prepare young men and women to consider STEM careers that meet growing industry demands and pay family sustaining wages.

The Da Vinci Science Center’s reputation also has grown to a national scale. The Center’s flagship professional development program for educators – the Greater Allentown Math Science Partnership (GAMSP) – was ranked as one of the 20 best programs of its kind in America by the U.S. Department of Education.

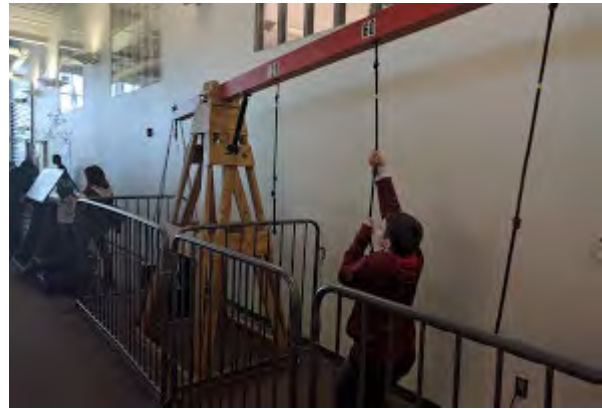
The Da Vinci Discovery Center of Science and Technology, Inc. (D/B/A The Da Vinci Science Center) is a 501 (c) (3) not-for-profit corporation that serves the greater Lehigh Valley metropolitan area, providing both informal and formal STEM (Science Technology, Engineering and Math) and STEAM (STEM + the Arts) education programs at its main facility in west Allentown and through the delivery of educational outreach programs. The Science Center’s professional development programs train teachers in inquiry, engineering design, STEM literacy, and the integration of arts and technology; and its workforce initiatives connect students with practicing STEM professionals. The Da Vinci Science Center has been in operation for more than 25 years. Its current operation engages more than 150,000 participants annually, with a total annual budget of approximately \$3.9 million. The new facility in downtown Allentown will be developed by Da Vinci Science City, LLC; a wholly owned subsidiary of which the Da Vinci Discovery Center of Science and Technology, Inc. is the sole member.

Programs

Sample programs include the following:

- **Professional development programs for educators**
- School Field Trips and Workshops
- Science Shows and Science Celebrations
- In-School and After-School Classroom Programs
- Career-Connection Days
- Scout Badge Days and Overnights
- After School and Weekend Science Clubs
- Preschool Programs
- Summer Teen Volunteer Program
- Summer STEM Literacy Program
- Women in Science and Engineering Initiative





History

The Da Vinci Science Center's roots were planted in 1992 when Lehigh University in Bethlehem formed the Science Model Area Resource Team (SMART) to provide interactive science experiences for local students. The SMART Center left Lehigh to become an independent non-profit in 1999. In 2003 the organization merged with Leonardo Da Vinci's Horse, Inc. and became known as the Da Vinci Science Center. In the fall of 2005, the Science Center moved to its current 29,000-square-foot facility in Allentown and has become a major attraction with exhibits and programs that make science fun and accessible for learners of all ages.

The Da Vinci Science Center staff includes approximately 40 year-round and 25 seasonal staff positions.

Project Team

The Da Vinci Science Center has assembled a team with the experience and capacity to develop a construction project of this type and scale.

- The Da Vinci Science Center executive team is led by **Lin Erickson, Executive Director and CEO**. Ms. Erickson served as the Da Vinci Science Center's Executive Director during the development phase of the Science Center's existing facility and has extensive experience in major capital project development and fundraising.
- **HGA**, a national multidisciplinary design firm rooted in architecture and engineering and headquartered in Minneapolis, MN completed a concept design for the facility. HGA has extensive experience in the design of major cultural and education facilities including science centers, and designed the Da Vinci Science Center's current facility. Roxanne Nelson, Principal with HGA, led the design team for the project. Ms. Nelson also was the lead architect for the design of the Da Vinci Science Center's existing facility.

- **Alvin H. Butz** is a major construction management firm headquartered in downtown Allentown. The Butz family has managed the organization for six generations and pioneered the construction management concept in the Lehigh Valley in 1973. Butz provides comprehensive construction management services. The firm possesses significant experience in the construction of healthcare facilities, colleges and universities, corporate office buildings, hi-tech manufacturing facilities, sports and entertainment venues, government buildings, K-12 schools and retail buildings. The Da Vinci Science Center project will be managed by Butz under the personal direction of its President and CEO, Greg Butz. Among the projects recently managed by Butz is the PPL Center arena in downtown Allentown.
- **Grenzebach Glier and Associates (GG+A)** is serving as fundraising counsel to the project, advising on the private-fundraising component of the capital campaign. GG+A conducted an exhaustive feasibility analysis during the fall of 2019, conducting dozens of in-person interviews and assessing the Science Center's capacity to raise private funds. \$1 million in private funding was secured prior to the onset of the COVID-19 epidemic, with an additional \$9 - \$12 million in active discussion.
- **H2R Market Research**, a Springfield, MO-based company with extensive experience in consumer-based market research and analysis for the attractions industry, has conducted market research on consumer interest in the project and prepared an attendance-potential analysis to support the business plan for the new science center.
- **PFM Financial Advisors** is serving as the Science Center's financial counsel and has prepared a financing plan that addresses the capitalization and cash-flow requirements of the project. PFM prepared the initial financing for a portion of the \$20 million in Gaming Economic Development Tourism Fund that has been committed to the project by the Commonwealth of Pennsylvania. This initial financing will fund architecture, engineering, and exhibit-design work during the second half of 2020 and early 2021.
- **CBO Financial** is a company specializing in providing gap financing such as New Markets Tax Credits for projects that revitalize distressed communities. CBO Financial's target market includes developers of relatively large scale (\$7M to \$150M) projects with significant positive community impact, and nonprofits that operate in low-income communities in the U.S. and its territories.
- **Gross McGinley**, an Allentown-based law firm, serves as Da Vinci Science Center's general counsel, providing a range of legal services to the project.
- **Saul Ewing Arnstein and Lehr** serves as bond counsel, working with the Da Vinci Science Center and PFM to support the multiple financial transactions required to support the capital requirements of the project.
- **Joseph Moore, Principal, EMS Consulting** in Philadelphia, serves as the Chief Project Consultant. Mr. Moore's experience includes more than 20 years of service in executive roles with the Franklin Institute Science Museum and the Philadelphia Zoo. Mr. Moore has overseen more than \$300 million in capital projects at those two institutions and currently works with cultural and educational organizations throughout the United States on strategic planning and project development.

Allentown Area Overview

History

Allentown was originally named Northamptontown by its founder, Chief Justice of Colonial Pennsylvania's Supreme Court, William Allen. Allen, also a former Mayor of Philadelphia and successful businessman, drew up plans for the rural village in 1762. Despite its formal name, from the beginning, nearly everyone called it "Allen's town." Allen hoped Northamptontown would turn into a commercial center because of its location along the Lehigh River. The low water level most of the year, however, made river trade impractical. Sometime in the early 1770s, William Allen apparently gave the property to his son, James, who built a country home called Trout Hall after his father's hunting and fishing lodge. Even by the time of the American Revolution, Allentown remained little more than a small village of Pennsylvania Dutch, more properly German, farmers and tradesmen, but continued its development as a center of marketing for local

farmers from the post-revolutionary years into the 1820s. The U.S. Census of 1810 placed it at the heart of the largest grain producing regions in the country.

In 1838, the city officially adopted the name Allentown which was not the only change in store for this town on the Lehigh. By the 1830s and 1840s, America's industrial revolution, which was born in the Lehigh Valley, was entering its take-off stage, and the arrival of the Lehigh Canal and later the railroad, opened up Allentown in a way that would have been beyond William Allen's wildest dreams.

The 1850s and 1860s saw the rise of a strong local iron industry. The nation's growing railroad network soaked up all the iron Allentown could produce. By the post-Civil War era, a large influx of German and Irish workers had created a mini-Pittsburgh along the banks of the Lehigh. But all of this prosperity fell apart with the collapse of the railroad boom in the Panic of 1873. Big and small iron furnaces closed one by one and sent the industry into a tail-spin from which it never recovered.

By the dawn of the 20th century, the community had fully recovered from the economic disasters of the 19th century. Silk mills had taken over from the dying iron trade, but they were not alone. Allentown's diverse economy produced everything from parlor furniture to beer and cigars.

Since World War II and particularly since the 1960s, Allentown has undergone yet another transition. Faced with the decline of manufacturing and the rise of the service economy, the city is once again dealing with change. Spurred by state passage of the Neighborhood Improvement Zone legislation, Allentown is seeing more than \$1 billion in new and planned development paced by the PPL Center, a 10,000 seat arena at Seventh & Hamilton streets. The city's infrastructure offers state-of-the-art technology, including a fiber optic loop and uninterrupted electrical service, which plays a role in attracting businesses to the downtown district.¹

Demographics

Allentown's estimated population is 121,433 according to the most recent United States census estimates (2-17-20). Allentown is the 3rd largest city in Pennsylvania based on official 2017 estimates from the US Census Bureau. The population density is 6920.22 people/mi.

Allentown has an unemployment rate of 6.6% (Jan 2020), exceeding the national average. Despite this, however, the city continues to see its population grow. Current estimates show that the population is up 2% from the last census, indicating that while growth isn't as rapid as it was during its earliest years, Allentown is only going to continue to get larger into the future.

The overall median age is 31.8 years, 31.2 years for males, and 32.5 years for females. For every 100 females there are 94.9 males. The racial makeup of the city is 59% white, 14% African-American, and 25% Asian. 52% of residents are Hispanic or Latino, and 5% are multi-racial. Over 14% of Allentown's residents are foreign-born. Nearly 30% of the population is between the ages of 25 and 44, making up the largest age group in the city. Almost one-quarter of residents are under the age of 18, while over 15% are at least 65 years old.

Economy

Allentown is the home of several companies, including 2 Fortune 500 companies, utility PPL Corp. and Air Products & Chemicals, Inc. The largest employer in the Lehigh Valley is Lehigh Valley Health Network with almost 8,000 employees. The manufacturing, health and retail trade industries make up the top three in Allentown.

Median household income in Allentown, PA is \$40,490, which is 36% below the U.S. median. Males in Allentown, PA have an average income that is 1.35 times higher than the average income of females, which is \$49,502. The income inequality in Allentown, PA (measured using the Gini index) is 0.469, which is lower than the national average.²

¹ <https://www.allentownpa.gov/>

² <https://datausa.io/profile/geo/allentown-pa/>; https://en.wikipedia.org/wiki/Economy_of_Allentown,_Pennsylvania

Currently, the City of Allentown is experiencing a renaissance. Over \$1 billion in new investment and construction is resulting in several new venues downtown, including a hockey and events arena, Class A office space, residential units, and restaurants. The revitalization of Allentown is stimulated by the Neighborhood Improvement Zone legislation.

In addition to the new downtown development, the City has prioritized improving the neighborhoods surrounding downtown. The City developed the Upside Allentown strategy, which is a revitalization plan for the Center City neighborhoods. Many partners are assisting with raising funds to implement this plan.³ Eight companies (BBT, TD Bank, and PPL at \$100,000 per year; Alvin H. Butz, Inc., City Center Lehigh Valley, Susquehanna Bank, Lafayette Ambassador Bank and Wells Fargo at \$50,000 per year) have committed \$550,000 a year over the next six years to initiatives that will:

- increase economic and educational opportunity for residents
- leverage ongoing efforts to change the negative perception of safety in downtown,
- encourage residents to own assets, including a home or a business
- urge residents to become more active in civic affairs in the city
- encourage people to visit downtown Allentown for entertainment, recreation, arts and culture.⁴

Community Impact & Participation

The Da Vinci Science Center's results are both concrete and intangible, as well as immediate and lasting. They form the foundation upon which the Center develops its STEAM programs to inspire curiosity, spark interest in STEM and STEM careers, increase knowledge and skills, and help prepare a 21st century workforce.

Since 2005, DSC has had more than 1.5 million visitors and participants. 2019 was a record year with 154,275 participants. Major highlights included:

- 24,000 annual school group visitors
- 36,000 participants in outreach programs
- 548 annual days of teacher training
- 3 new US patents earned by students in the Young Inventors program, bringing the total to 7
- 6,766 annual # of students awarded scholarships through Science Inquiry Fund
- 350 women and girls attended the Women in Science & Engineering Forum
- 78 STEM Professionals connected to 1,517 students through Career Connection Field Trip days.

The new Da Vinci Science Center facility in downtown Allentown will be both an educational asset and a significant driver of economic development in downtown Allentown. As an economic development driver, the enlarged facility, with 30,000 SF of exhibitions, is expected to attract 485,000 visitors annually in a stabilized year of operations, based on recently conducted, third party market research. Consumer feedback that has been collected about the project indicates that, on average, visitors will stay for 3 hours during each visit. This major new "day-out" family venue, located adjacent to the PPL Center arena, will anchor an anticipated second wave of investment within Allentown's Neighborhood Improvement District over the next three to four years. It will activate the downtown shopping and entertainment district on weekends, holidays, and evenings throughout the year, and will contribute greatly to the critical mass of activities available in downtown Allentown for both residents and visitors.

As a major educational asset, the new science center will provide STEAM educational programs readily accessible to Allentown's low and moderate-income families. STEAM programs will be designed to encourage residents of the immediate community to engage in Science, Technology, Engineering and Math, to explore the Arts, and to unleash their own curiosity and creativity. These programs will be offered at little or no cost to low- and moderate-income participants and will be heavily promoted throughout the disadvantaged communities in the immediate vicinity of the Science Center.

³ <https://www.allentownpa.gov/Community-and-Economic-Development>

⁴ <http://upsideallentown.com/about/>

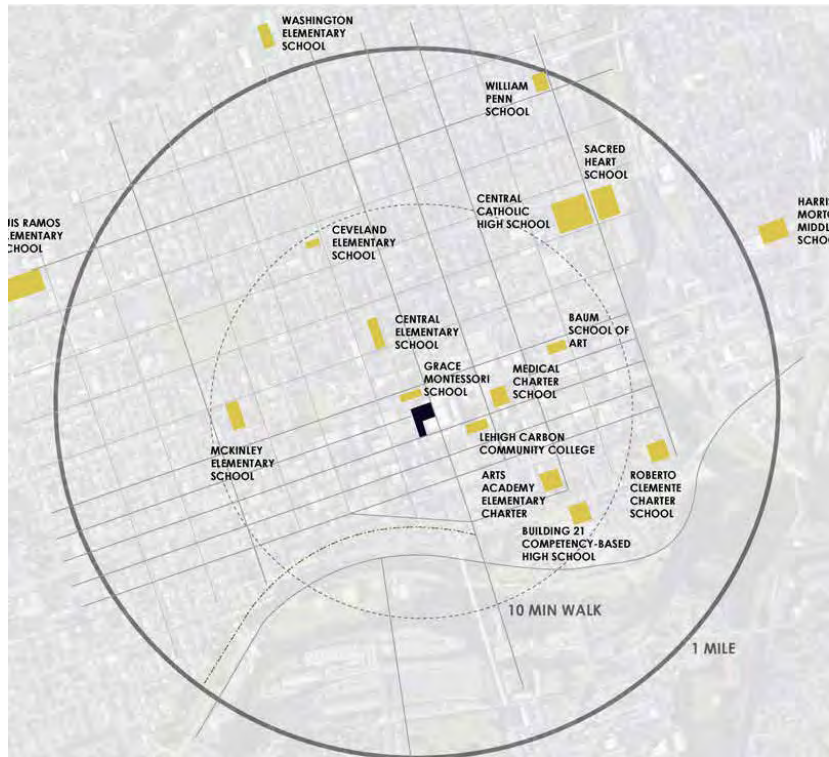
The Da Vinci Science Center is already experienced and highly regarded for its programmatic offerings that encourage long-term community engagement. For example, the Science Center currently hosts a variety of Science Clubs after school and on weekends that range from 8 weeks in length to the full school year. Students work alongside Da Vinci Science Center educators and scientists, technicians, and engineers from local companies to explore manufacturing, robotics, the intersection of STEM and the arts, and more. Current offerings include the STEAM Club, Mack Manufacturing School, Young Inventors Prom, STEM Girls!, and FIRST® LEGO® League. Perhaps best known is the Da Vinci Science Center's Young Inventor's Program which offers children in grades 5 through 8 an opportunity to explore the invention process with activities and presentations by professional inventors. The program has already resulted in 5 youth participants receiving 9 patents from the United States Patent and Trademark Office.

This past year, program participation at the Center facility was limited due to the pandemic. During this time, the Center conducted numerous "hands on" virtual science lessons utilizing materials provided to students in take home kits. During the period from July 2020 through June 2021, the Center conducted programs for over 2000 students in the Allentown School District, many of which were multi-day encounters.

Through relationships with the Allentown school district, the Center promotes summer camps and science clubs as well as scholarship funds to local students. While programs in the building this past year were limited due to the pandemic, \$7,825 in scholarships was awarded to over 50 students, almost half of whom were from Allentown. Participation in these programs is limited due to difficulty arranging transportation to the Cedar Crest facility, the Center has raised funds specifically designated to cover transportation costs for downtown residents to address this constraint. By locating the facility in the heart of downtown, access by students from local neighborhood schools will be greatly improved.

The Science Center is currently in discussion with Community Action Development Corporation of Allentown (CADCA) to participate in a CADCA-led Neighborhood Partnership Program in which the new Science Center would serve as a STEAM Community Center, offering youth an after-school place to engage in science learning, and an alternative to gang activity that is very active in the area. The Da Vinci Science Center also has established the Linnay Fowler Science Inquiry Fund that provides scholarships to both individuals and organizations in need, and provides students from low- and moderate-income households opportunities to explore science, technology, engineering, and mathematics (STEM) subjects and careers.

Located within one-mile of the new science center are 5 public schools operated by the School District of the City of Allentown, and 6 other private and charter schools. A wide range of programs will be provided to these students including class field trips, afterschool and weekend Science Clubs (STEAM Club, Mack Manufacturing School, Young Inventors Program, STEM Girls!, FIRST® LEGO® League, etc.), School's Out Science Camps, Summer Science Camps, and STEM Summer Learning Programs. At the new facility and its STEAM Learning Center, the Center will host programs to build skills aligned with state standards, school curriculum, and workforce demand and offer classes and internships for high school students that provide alternate pathways to graduation. In 2018-2019 (the last year pre-COVID) a total of 25,386 students participated in structured field trip experiences. As a result of locating the new facility at this downtown site and supported by funding raised in our comprehensive campaign, the average number of annual field trips is projected to triple in size. In 2020-2021 center's outreach team had 13,734 encounters with Lehigh County students and teachers in the classroom or through assembly-style science presentations. In addition 11,231 STEAM kits were distributed to students throughout the valley. These kits, which they could keep, were used to provide hands-on interaction during virtual programming. In many cases the students shared the kits with their families. Allentown School District Superintendent Thomas Parker has already engaged with the Da Vinci Science Center in discussions regarding ways in which the school district students within walking distance of the facility can utilize the new science center intensively for both in-school and after-school STEM learning.



Demographic information includes the following:

Da Vinci Science Center - Surrounding Schools Demographics											
School	Address	# Students	Free/ Disc Lunch Recipients	Racial Breakdown						Per Pupil Expenditures	
				Hispanic	African Am	White	Asian	Not Specified	2 or More Races		Minority
Building 21 High School	265 Lehigh Street	460	98.5%	72.6	16.5	8.3					\$ 13,939
Central Elem	829 W. Turner St., 18102	760	100.0%	75.4	14.1	5.0					13,028
Harrison Morton Middle	137 N. 2nd St., 18101	831	100.0%	66.9	14.6	11.8					17,551
William Penn Alternative School NO INFO	401 Allen St, Allentown, PA 18102										
Cleveland Elem School	424 N Ninth St, Allentown, PA 18102	249	100.0%	70.7	12.4				9.6		15,175
B.G. Anna Mae Hayes Elementary (new)	1227 W Gordon St, Allentown, PA 18102										
Sacred Heart School	325 N 4th St, Allentown, PA 18102	219		81.3	4.1			6.8			
Arts Academy Elem Charter	601 Union St, Allentown, PA 18101	425	100.0%	62.6	24.0	10.8					13,656
Roberto Clemente Charter	136 S 4th St UNIT 1, Allentown, PA 18102	618	100.0%	96.9	3.1						13,368
Grace Montessori School	814 Linden St, Allentown, PA 18101	50			14.0	16.0		62.0			
Central Catholic High School	301 N 4th St, Allentown, PA 18102	746		14.1		70.6	7.5				
The Baum School of Art NO INFO	510 Linden St, Allentown, PA 18101										
Lehigh Carbon Community College	718 Hamilton St, Allentown, PA 18101	6,265								40.6	

The Da Vinci Science Center also has a role in teacher training. Specific schools served by the Center’s Teaching Training programs vary year to year based on the needs of the schools and available funding. The center is currently participating in the multi-year Next Century Allentown Project which is funded through a major grant from The Century Fund and other private donations. Through this project, every elementary school science teacher in the 4th and 5th grades in the Allentown School District (107 teachers from 14 schools) has received hands-on professional development training that includes a professional development workshop and five classroom lessons co-taught by the elementary school teachers and Da Vinci Science Center educators. Additional one-on-one coaching is available as needed.

NMTC funds will be used to complete the downtown facility and as such, will directly contribute to a significant expansion of these community engagement programs and expand the access of these programs to downtown residents; a 50% increase is projected for community engagement program participation above pre-pandemic levels.

According to an independent market study the project is expected to serve 485K individuals annually, with many attracted from the surrounding disadvantaged neighborhoods in programs for students and adults and community events.

Highlights of community participation estimates for the completed project, with comparisons to its current Cedar Crest facility, include:

> 485,000 total annual participants, a 215% increase compared to participants in its Cedar Crest facility in 2019. The estimate includes 167,000 adults, 13% or 22,600 of which are estimated to be lo-income persons (LIPs), and 137,000 children, of which 13% or 18,500 [this is 13%] are estimated to be LIPs.

> 76,000 annual school and group visitors, a 154% increase, 12%, or 8,800 are estimated to be LIPs.

> 53,000 participants in outreach programs, a 51% increase. Programs are offered in schools, after school and STEM summer learning programs; 24%, or 12,700 are estimated to be LIPs.

> 52,200 participants in educational programs, a 337% increase. Programs include Summer Camps, Science Clubs, After School Programs and STEAM programs, 20% of participants, or 10,400, are estimated to be LIPs.

> 1,000 teacher days of Professional Development training, a 83% increase; 12% or 124 of which are estimated to be LIPs.

The Science Center’s current facility is not large enough to accommodate the growing demand for STEAM education in the region, and the facility at that location cannot be expanded. The site for the new facility was chosen for its location within the central business district of Allentown and its adjacency to many of the City’s most impoverished neighborhoods.

For more information about the Center’s community impact please see the NMTC Intake Form in the Appendix.

Job Creation

Predevelopment and/or Construction FTE Jobs created: 407.0

Permanent FTE Jobs created: 38.0

Permanent FTE Jobs maintained: 39.4

The new downtown science center will employ an estimated 49 full-time and 28 FTE part-time employees (77 FTE positions). Nearly half of these (38 FTEs) will be new positions. These positions do not include an additional 30 new jobs to be created by the on-site catering and retail operations.

The table that follows provides a projection of full-time and part-time positions created and retained by the science center as a result of the project. The 2020 pre-Covid staffing levels reflect the Da Vinci Science Center’s current operation. Positions will be added incrementally beginning in 2021 to support the expansion effort, with a major hiring effort during the lead-up to the public opening. The 2023 FTE estimates are expected to continue indefinitely to support the expanded operation.

Projected Staffing Schedule

Da Vinci Science Center Downtown Allentown

Assumes Public Opening by 03/31/2024

Year	2020	2021	2022	2023
FT Positions	25	28	35	49
PT Positions (FTE)	14.4	14.4	14.4	28.4
Total FTE Positions	39.4	42.4	47.4	77.4

Job Title	Employer(QALICB, Sponsor, Tenant)	Number of Employees	Number of Perm Jobs FTEs	Number of FTE Jobs	Avg. Annual Wage	New Job	Maintained Job
Executive	Tenant	2.0	2	2.0	\$ 167,500	1	1.0
Administrative	Tenant	7.0	7	7.0	\$ 65,000	3	4.0
Philanthropy	Tenant	5.0	4	4.3	\$ 73,600	0	4.0
Marketing	Tenant	11.0	10	10.2	\$ 50,471	6	4.0
Education/Exhibits	Tenant	31.0	25	25.1	\$ 45,176	11	14.0
Visitor Services	Tenant	14.0	8	7.7	\$ 35,412	1	6.4
Facilities	Tenant	10.0	9	9.0	\$ 42,866	6	3.0
Outreach Education	Tenant	14.0	12	12.1	\$ 46,939	6	6.0
Retail Sales	Other	8.2	5	5.1	\$ 28,307	5	
Food Service	Other	14.9	10	9.9	\$ 29,539	10	
Event Catering	Other	14.5	8	8.3	\$ 27,878	8	
Auxiliary Programs	Other	7.9	5	4.9	\$ 34,519	5	
Security Associates	Other	3.5	2	1.8	\$ 28,000	2	
Construction FTE Job	Other	407.0	0	407.0	\$ 50,164	407	
Predevelopment	Other	17.0	0	11.0	\$ 244,436	11	
Total		567.0	107	525.4	\$ 64,653.85	483	42.4

Quality of Jobs

The new positions (38 FTEs) will pay an average wage of \$22.75 just below the estimated living wage for one person in the Allentown-Bethlehem-Easton area. The Science Center's current benefit package for full-time employees includes the following: 3 paid holidays, 13 additional personal/holidays per year, 10 vacation days per year, 5 sick days per year, health insurance paid in full for the employee, access to tele-medicine services at no charge to the employee, life insurance, and short and long-term disability insurance. Other benefits include participation in a tax-efficient Flexible Spending Account for unreimbursed health care costs, participation in a tax-deferred 403(b) Retirement Plan (Da Vinci does not currently provide employee match), 10 days paid parental leave, and an employee assistance program providing access to phone counseling. The Science Center expects to continue this benefit package at the new downtown site.

Accessibility of Jobs

The Science Center will establish a target goal of at least thirty percent of new positions, full and part-time, being filled by Allentown residents. It will partner closely with the Workforce Board Lehigh Valley to recruit, identify, and train Allentown residents for new jobs at the downtown site. Allentown residents will be provided advance notice of new positions, and for those qualified, preferred access for interviews. In the months prior to opening, skills training programs will be offered for residents to meet the requirements of the new positions created. Finally, the Science Center is committed to supporting the development and growth of its employees in an inclusive environment. Its Operating Plan calls for celebrating the rich diversity of the local community through recruitment of diverse staff, and training, advancement, and retention practices which create an environment where all feel welcome.

The Science Center will also offer a STEAM Career Ladder Program for students beginning in middle school and continuing as they get older that will result over time in additional residents of the low-income community in the immediate vicinity of the project gaining the skills and credentials required to work at the Da Vinci Science Center and in high demand STEM jobs in the community. The STEAM Career Ladder Program is envisioned as a system of graduated opportunities through which young people advance as they interact with the public and help visitors feel welcome and understand the science behind the exhibits and demonstrations. Through hands-on training, shadowing, and on-the-job experiences, young people will acquire communication skills, knowledge of science and the scientific process, experience with inquiry and project design, and exposure to careers in STEM and STEAM teaching. As they assume increasing levels of responsibility, pay, and skill, they will prepare for future educational and career opportunities, including positions at the new science center or in the community.

Community Participation

The Da Vinci Science Center has been engaging members of the local community and community-based organizations since October 2019, prior to the official public announcement of the project. To date, the Science Center has participated in 17 meetings and events involving community organizations. Through this process, the Science Center has identified community resources to engage in the planning process for the new facility and received input and feedback regarding

the initial plans for the new facility. Future citizen engagement plans include a Community Workshop hosted by the Science Center to gather input from families residing in surrounding neighborhoods.

Among the organizations represented in this process are Allentown City Council, Allentown Neighborhood Improvement Zone Development Corporation, Allentown Parent Network, Allentown School District, Community Action Committee of the Lehigh Valley, Community Action Development Corporation of Allentown, Cultural Coalition of Allentown, Promise Neighborhoods of the Lehigh Valley, Resurrection Life Church, Spanish Immersion Learning Center, Union Baptist Church, and Zero Youth Violence Allentown.

Topics that have been identified for further exploration include: 1) creating opportunities for local businesses and entrepreneurs; 2) partnering with community organizations to recruit, train and hire local residents for staff positions at the Science Center; 3) coordinating with regional mass transit providers for student and family access; 4) exploring how the Science Center might become a catalyst for the creation of a purpose-built community efforts underway; 5) expanding the Science Center's existing partnership with the Allentown School District; 6) working with faith-based organizations to develop and implement youth programs during out-of-school time periods; 7) serving as a STEAM-based community center as part of a larger Neighborhood Partnership Program initiative supporting at-risk youth; 8) integrating the Science Center's programs with those of local arts organizations; 9) devising ways in which potential barriers to neighborhood utilization of the Science Center, such as language and cost, can be addressed prior to opening; 10) ensuring that the diversity of local communities is fully reflected in the programs, staffing, and governance of the Science Center.

This process will continue in an iterative fashion throughout the period leading up to the opening of the new Science Center facility in order to ensure that the project has provided broad-based opportunities for citizen involvement, utilized resources available within the community, and developed plans for the ongoing operation of the Science Center that are fully aligned with and reflective of its neighboring communities.

Appendix

Truist Bond Issue Term Sheet

Truist NMTC Equity Investment Term Sheet

Donations Certification Letter

DVSC Project Brochure

Annual Community Impact Report 2019

DVSC Community Impact Overview

Key Economic and Fiscal Benefits

NMTC Intake Form - Da Vinci Science Center

Master Plan Overview

Operational Business Plan

Market Study

Capital Campaign Feasibility Study

DA VINCI SCIENCE CENTER

Summary of Terms to Provide Financing



Allentown Neighborhood Improvement Zone
Development Authority
Revenue & Gaming Bonds, Series 2022 A&B

Underwritten by:



JUNE 28, 2021
DA VINCI SCIENCE CENTER
3145 Hamilton Blvd Bypass, Allentown, PA 18103

Summary of Terms
Preliminary
Series 2022 A&B

The terms and conditions described herein are preliminary and subject to further due diligence.

General:

Conduit Issuer: The Allentown Neighborhood Improvement Zone Development Authority (“ANIZDA” or the “Issuer”).

Borrower: Da Vinci Science Center (“DVSC” or the “Borrower”) or its affiliate.

The Project: DVSC is building a new state of the art science center on a 1.25-acre site located in the center of downtown Allentown near the PPL Center, and situated within the Neighborhood Improvement Zone. The facility will include approximately 79,000 square feet on 3 floors and will include educational and exhibit space to benefit Allentown and the greater Lehigh Valley.

The Bonds: The Series 2022 Bonds (the “Bonds”) will total approximately \$20 million of fixed rate, tax-exempt bonds. The Bonds will be issued in 2 series as follows:

Series A: secured by a senior lien on Neighborhood Improvement Zone Tax Revenues generated by the Borrower at the Project site (the “NIZ Revenues”).

Series B: secured by Gaming Economic Development and Tourism Fund revenues granted to the Borrower in the amount of \$2 million annually through 2029.

Purpose: The proceeds of the Bonds will (i) fund certain costs associated with the Project, which may include funding a leverage loan associated with New Markets Tax Credits financing associated with the project, (ii) possibly fund a Debt Service Reserve Fund, and (iii) pay costs of issuance of the Bonds.

Additional Bonds: It is not anticipated that additional bonds secured by either the NIZ Revenues or the GEDTF Revenues will be permitted unless there is an increase in the respective revenue source.

Other Parties: Bond Counsel: TBD
Borrower Counsel: TBD
Underwriter Counsel: TBD
Tax Credit Counsel: TBD
Trustee: TBD

Limited Obligations:

The Bonds will be special and limited obligations of the Issuer payable solely from the funds, accounts, and security described herein and shall not constitute a general obligation debt of the Issuer or a pledge of the Issuer's full faith and credit.

Bond Security:

The NIZ:

The NIZ is a special taxing district that was established for the purpose of revitalization and furthering development in the city of Allentown, PA. The NIZ Act, voted into law in 2012, as a 30-year program, provides that certain state and local tax revenue generated by existing and new businesses within the NIZ may be used for payment of debt service on loans, obligations, or bonds issued or the improvement and development by developers of qualifying capital improvements within the NIZ.

Both State and Local Taxes are subject to the NIZ and generally include taxes imposed by the Commonwealth of Pennsylvania or local municipalities within the NIZ, except real property taxes.

Security for the Bonds:

Series A: The Series A Bonds will be secured by a senior lien on the NIZ Revenues, including revenues generated during construction of the Project, and from qualified businesses within the Project, but not in excess of the amount required for the annual Debt Service on the Bonds. It is yet to be determined whether the Series A Bonds would also carry a revenue pledge of the Borrower.

Series B: The Series B Bonds will be secured solely by the GEDTF Revenues.

Debt Service Reserve Fund: TBD.

NIZ Revenue Waterfall: The NIZ Revenues will be applied in the following order: (a) first, to any accrued principal and interest on the Bonds through the date the NIZ Revenues are deposited into the pledged escrow account, (b) second, to a surplus account to fund any remaining payments of debt service on the Bonds which will become due that year, and (c) third, to replenish any previous draws on the DSRF, if any, and make the amount of the DSRF equal to the Reserve Requirement.

Collection of NIZ Revenues:

Pursuant to a trust indenture, allocated NIZ Revenues securing the Bonds are to be deposited directly with the Trustee for payment of debt service on the Bonds.

Basic Bond Terms:

General:

Par Amount: Approximately \$20 million.

Assumed Closing / Delivery Date: Not later than Spring 2022.

Credit Rating: TBD, likely non-rated non-investment grade.

Terms:

Fixed rate, tax-exempt, fully funded at closing.

Anticipated Structure:

Series A: term bonds due 2032 and 2042.

Series B: term bond due 2029.

Principal payments on or about June 15 each year; interest payments semiannually.

Other:

Denominations: \$100,000 and any integral multiple of \$5,000 in excess thereof.

Form of Bond Sale: The Bonds will be offered in a limited public offering or a private placement, on a “best efforts” basis.

Investor Restrictions: The Bonds can only be offered to Accredited Investors or Qualified Institutional Buyers, as such term is defined in the Securities Act of 1934. No investor restrictions or traveling letters.

DTC / Book Entry: DTC / Book-Entry registered in the name of Cede & Co. with CUSIP.

Optional Redemption:

TBD.

[Remainder of page intentionally left blank.]

This transaction is subject to certain approvals by the Issuer, delivery of required legal opinions, delivery of the Revenue Forecast, due diligence, and final documentation.

Please indicate your acceptance of the terms herein by signing below:

Da Vinci Science Center

By: _____

Name
: _____

Its: _____

**Allentown Neighborhood Improvement Zone
Development Authority**

By: _____

Name
: _____

Its: _____

Truist Securities

By: _____

Name: _____

Its: _____



Jamise B. Goodman
Senior Vice President

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Atlanta, Georgia 30308
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jamise.goodman@Truist.com

December 13, 2021

Linda L. Erickson
Executive Director and CEO
Da Vinci Science City, LLC
3145 Hamilton Blvd Bypass
Allentown, PA 18103

Dear Ms. Erickson:

This letter of interest (“LOI”) is for discussion purposes only and sets forth general terms and conditions of a proposed investment/loans to benefit a limited liability company that will renovate, own and operate the property described below. It is expected that this LOI will be signed by December 31, 2021. It is also expected that the transactions contemplated hereby would close no later than April 30, 2022 (the “Closing Date”). Unless extended by Truist in writing, this LOI will be automatically withdrawn without further action by any party on the day after the Closing Date. This LOI does not represent or imply an offer to invest/lend nor does it limit the terms and provisions that would be set forth in investment/loan and related documents prepared by Truist’s counsel. No commitment exists unless and until Truist completes all due diligence, underwriting, receives all management and regulatory approvals (which may not be forthcoming), and final project documents are signed by all respective parties, including approval by Truist’s tax counsel.

Truist Community Capital, LLC and its affiliates (“**Truist**”) are pleased to consider participating in a New Markets Tax Credit (“**NMTC**”) equity investment described below to finance the construction and development of a new 67,000 square foot science and learning center in Allentown, PA (“**Project**”), based substantially on the proposed summary of terms and conditions below.

NMTC Allocation	<p>NMTC Allocation size is currently projected to be up to \$30 million. Community Development Entities (“CDEs”) are to be determined and subject to approval by Truist.</p> <p>CDEs may charge upfront, annual compliance/asset management, and/or exit fees. The CDEs’ fee structures are at their sole discretion.</p>
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Investment Fund Ownership Structure:	Investment fund will be a Georgia limited liability company. Truist will own 100% of the membership interests of investment fund.
NMTC Structure:	<p>On an assumed Qualified Equity Investment (“QEI”) of \$30 million, the amount of NMTCs would be \$11,700,000. Based on an estimated price of \$0.77 per \$1.00 of NMTCs, Truist is willing to consider an equity investment of \$9,009,000 into the investment fund. Truist’s potential equity investment assumes that Truist will be providing the source debt to the leverage loan described below.</p> <p>The assumed \$30 million QEI assumes an approximate \$20,991,000 leverage loan by the project sponsor/financial institution. Leverage lender must forbear its right to pursue remedies against the investment fund during compliance period, inter alia. The QALICB is prohibited from being an obligor under or pledging assets to secure the leverage loan.</p> <p>Proceeds of the Truist equity and leverage loan comprise the QEI and will be used to pay CDE Fees and make the QLICIs.</p> <p>The NMTC investment will be structured as Qualified Low Income Community Investment (“QLICI”) loans to the Project. At the end of the seven-year compliance period, Truist may put its interest in the investment fund to the project sponsor for the greater of \$1,000 or any amount owed to Truist with respect to the Project or the transaction contemplated. If Truist does not put its interest in the investment fund, project sponsor will have the right to call Truist’s interest in the investment fund for its then current fair market value.</p>
QALICB/QLICI Determination:	The Project owner and guarantors will represent, warrant, and covenant that, for federal income tax purposes, the loan made by the CDE does and will for its term constitute a QLICI and that the Project owner is and will for the term of the loans be a Qualified Active Low Income Community Business (“ QALICB ”). Truist must determine that the CDEs have a reasonable expectation at closing that Project owner will remain a QALICB during the entire term of the loans made by the CDE. The Project owner shall provide customary NMTC-related representations, warranties and covenants and shall provide all NMTC-related reporting required by CDEs and Truist.
Guarantees:	Truist and the CDEs will require standard guarantees and indemnifications from entities satisfactory to Truist and the CDEs in their sole discretion, including a guaranty of payment of fees and expenses, loan repayment guaranty (if applicable), construction completion guaranty, environmental guaranty and a tax credit indemnity with respect to any recapture, disallowance, or loss of any NMTCs in connection with the transaction contemplated hereby by Truist or its affiliates, but only to the extent such recapture, disallowance, or loss is

	<p>attributable to any of the following: (i) the Project owner not being a QALICB; (ii) the redemption by Truist or its affiliates (within the meaning of Section 1.45D-1(e)(2)(iii) of the Treasury Regulations) of any portion of the QELs in the CDEs, provided that such redemption shall have occurred in connection with a voluntary or involuntary payment of principal by the Project owner to the CDEs; (iii) changes in the Internal Revenue Code of 1986, as amended, or NMTC requirements that cause Truist or its affiliates to receive less than the amount of NMTCs it would have otherwise been eligible to receive but only to the extent that the adverse effects thereof could reasonably have been mitigated by the Project owner or its affiliates without material cost or liability; (iv) the failure of any Project tenant to constitute a “qualified business” within the meaning of Section 1.45D-1(d)(5) of the Treasury Regulations; (v) failure to satisfy the “substantially all” test under Section 1.45D-1(c)(1)(ii)(5) of the Treasury Regulations resulting from a voluntary or involuntary payment of principal by the Project owner to the CDEs; (vi) the failure of any of the Project Loans to qualify as QLICs, provided that the proceeds of such Project Loans are advanced pursuant to the promissory notes and in accordance with that certain Flow of Funds Memorandum (or similar document) to be executed at closing; (vii) any fraud, intentional misconduct or gross negligence of the Project owner, Sponsor or any affiliate or any other matter within the control of the Project owner, Sponsor or any affiliate.</p>
<p>Expenses & Costs:</p>	<p>All costs incurred by Truist in connection with the proposed investment/loans, including but not limited to, legal costs, accounting fees, environmental and appraisal costs, review costs, flood zone certification costs, recording and title costs, etc., shall be paid and/or reimbursed by the Project owner or guarantors, whether or not the transactions close.</p>

<p>Additional Requirements</p>	<ol style="list-style-type: none"> 1. Project owner shall secure commitments of New Markets Tax Credit allocation from Community Development Entities in the amount of up to \$30 million and leverage loan sources of up to \$20,991,000; and the structure of such transactions shall be satisfactory to Truist and its counsel. In addition, all transactions must close simultaneously. 2. The Project owner shall provide, at its expense, an Agreed Upon Procedures Report or QALICB Report satisfactory to Truist in its sole discretion from an accounting firm acceptable to it evidencing the Project owner's qualification as a QALICB. 3. The Project owner shall provide, at its expense, a financial model satisfactory to Truist in its sole discretion from an accounting firm acceptable to it. 4. Truist will require QALICB to pay for legal costs associated with transaction unwind, up to \$10,000. 5. The guarantors and Project owner shall submit annual audited financial statements within 120 days of their fiscal year end. The financial statements shall include, among other information, a balance sheet, profit and loss statement and related footnotes acceptable in form and content to Truist. 6. Project owner shall furnish customary reports and information including quarterly unaudited financial statements. 7. Project owner shall provide a semi-annual certification of its qualification as a QALICB. 8. Truist shall receive federal income tax opinions of the Project owner's and the guarantors' counsel, and other counsel as necessary, in form and substance satisfactory to Truist stating that the loan made by the CDEs should constitute a QLICI(s), the Project owner should be a QALICB, and the affiliate loan should constitute debt. The Project owner and guarantor must also provide state law authority, existence, and enforceability opinions from lawyers licensed in the applicable jurisdictions. 9. Such other documents, instruments, approvals and assurances customary for a NMTC transaction as Truist or its counsel may reasonably request in connection with closing.
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This LOI is not assignable and is not intended to benefit any third party. This LOI is for your confidential use only and is sent to you on the condition that neither the existence of this LOI nor its contents will be disclosed publicly or privately to any person or entity, except to those of the company's officers, employees, agents, counsel or accountants directly involved with this proposed financing and then only on the basis that it not be further disclosed. Without limiting the generality of the foregoing, none of such persons shall use or refer to Truist or any of its

affiliates in any disclosure made in connection with the proposed transaction without Truist's prior written consent.

Notwithstanding anything else contained herein, the confidentiality provisions contained in this LOI shall not be interpreted by the parties hereto in a manner which would cause the proposed transaction contemplated herein to be a "confidential transaction" within the meaning of Treas. Reg. § 301.6111-3(b)(2)(ii)(B) and the applicable authority related thereto.

This LOI supersedes any prior written or oral communications or understandings and may be amended only by a writing signed by Truist. This LOI is unconditionally cancellable by Truist at any time, either party may terminate negotiations at any time for any reason or no reason, and partial performance or efforts to carry out other acts in contemplation of consummating the proposed transaction shall not be deemed evidence of intent by either party to be bound by the terms of the proposed transaction.

If the parties enter into the proposed transaction, this LOI shall not survive closing of the transaction but shall be superseded by the documents evidencing the transaction. This LOI will be governed by the laws of the State of Georgia and, to the extent permitted by applicable law, the Project owner and Truist waive trial by jury, and further waive any right to special, expectation, incidental, consequential or punitive damages, in connection with any action arising under or related to this LOI.

By its execution hereof, the Project owner (a) agrees that, except as provided in this paragraph with respect to Project owner's obligation in respect of costs and expenses and in the section labeled Expenses & Costs, and except as set forth herein with regard to confidentiality, choice of law and waiver of jury trial, nothing contained in this LOI creates or is intended to create any legally binding obligation upon any party, (b) authorizes Truist to order any required appraisal, environmental and similar reports, and to engage legal counsel, all at Project owner's expense and in reliance on this understanding, in advance of management and regulatory approvals (which may not be forthcoming) and (c) grants Truist the exclusive option to make an NMTC equity investment with respect to the Project for a period commencing on the date this LOI is fully executed and expiring on the later of (i) the day after the Closing Date and (ii) the date on which all costs and expenses owed by the Project owner pursuant to the section labeled Expenses & Costs are paid in full. Project owner shall be responsible for all fees and expenses including, without limitation, legal fees and expenses, incurred by Truist in enforcing its rights under this LOI. Project owner's obligation in respect of the costs and expenses referenced in this paragraph and in the section labeled Expenses & Costs is in consideration, inter alia, for Truist's undertaking to underwrite the proposed investment/loans and incur such costs and expenses and shall survive the cancellation or termination of this LOI.

Sincerely,

Jamise B. Goodman

Jamise B. Goodman

Senior Vice President

Acknowledged and Agreed this _____ day of _____, 2021.

Project Owner:

Da Vinci Science City, LLC

By: The Da Vinci Discovery Center of Science and Technology, its member

Linda L. Erickson

Name: Linda L. Erickson

Title: Executive Director and CEO

BUCKNO
LISICKY 
& COMPANY

BUCKNOLISICKY.COM

A Professional Corporation

Certified Public Accountants | Business Consultants

To: Whom it may concern

From: Buckno Lisicky & Company, PC

Re: DaVinci Science Center fundraising status

This letter is to certify that, as of August 1, 2021 the DaVinci Science Center has \$11,827,412 in signed commitments for donations, \$1,577,412 of which has already been received. In addition, there are \$2,250,000 in pending commitments.

Buckno Lisicky & Company is a regional certified public accounting firm located in the Lehigh Valley and is the current independent auditor of the DaVinci Science Center.

Signed,

Buckno Lisicky + Company

Allentown, Pennsylvania

August 11, 2021

BUCKNO LISICKY & COMPANY



inspiring
curiosity
FOR GENERATIONS TO COME





Leading the way in STEAM

The mission of the Da Vinci Science Center is to “Bring Science to Life and Lives to Science.”

The dramatic changes in our everyday lives as a result of the Covid pandemic, intense weather events, and rapidly advancing technologies have elevated the importance of science and science learning. Since 1992, the Da Vinci Science Center has played a critical role providing access to a wealth of science-rich resources for youth, families, and teachers in the greater Lehigh Valley region. Inspired by its namesake, Leonardo da Vinci, today the Science Center is the “go-to” resource for hands-on learning experiences that foster curiosity and integrate science, technology, engineering, and math (STEM) with the Arts (STEAM).

“Leonardo was a genius. What set him apart was his creativity and his intense curiosity!”

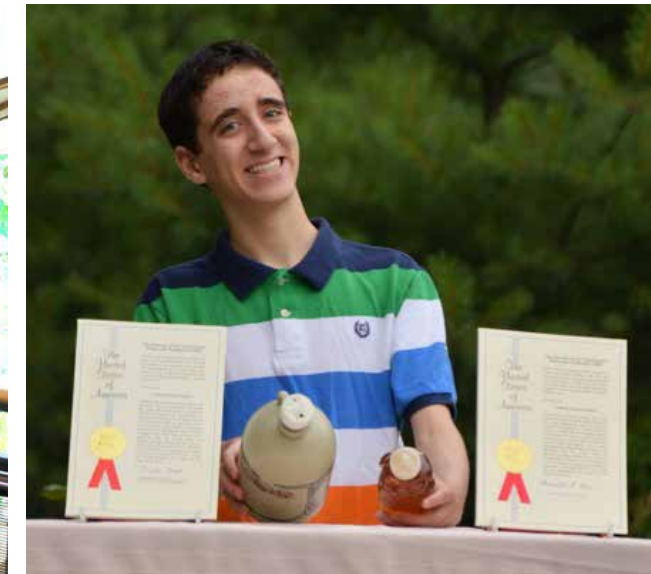
-Walter Isaacson in Leonardo da Vinci

Inspiring Curiosity, Transforming Communities

The 21st Century Science Center serves as a nucleus of creativity and a catalyst of invention; it is a space that piques visitors’ curiosity, where the invisible becomes visible, and science learning takes center stage.

Across the U.S., there is an urgent need to prepare a skilled workforce for new and emerging roles in STEM fields and the creative economy of the 21st century. There are an estimated 590,000 new and replacement jobs in Pennsylvania through 2026, with STEM jobs growing at over 9 percent. Currently there are over 17,000 unfilled computer science and software development jobs in Pennsylvania, including the Lehigh Valley, with an average salary of \$85,000.

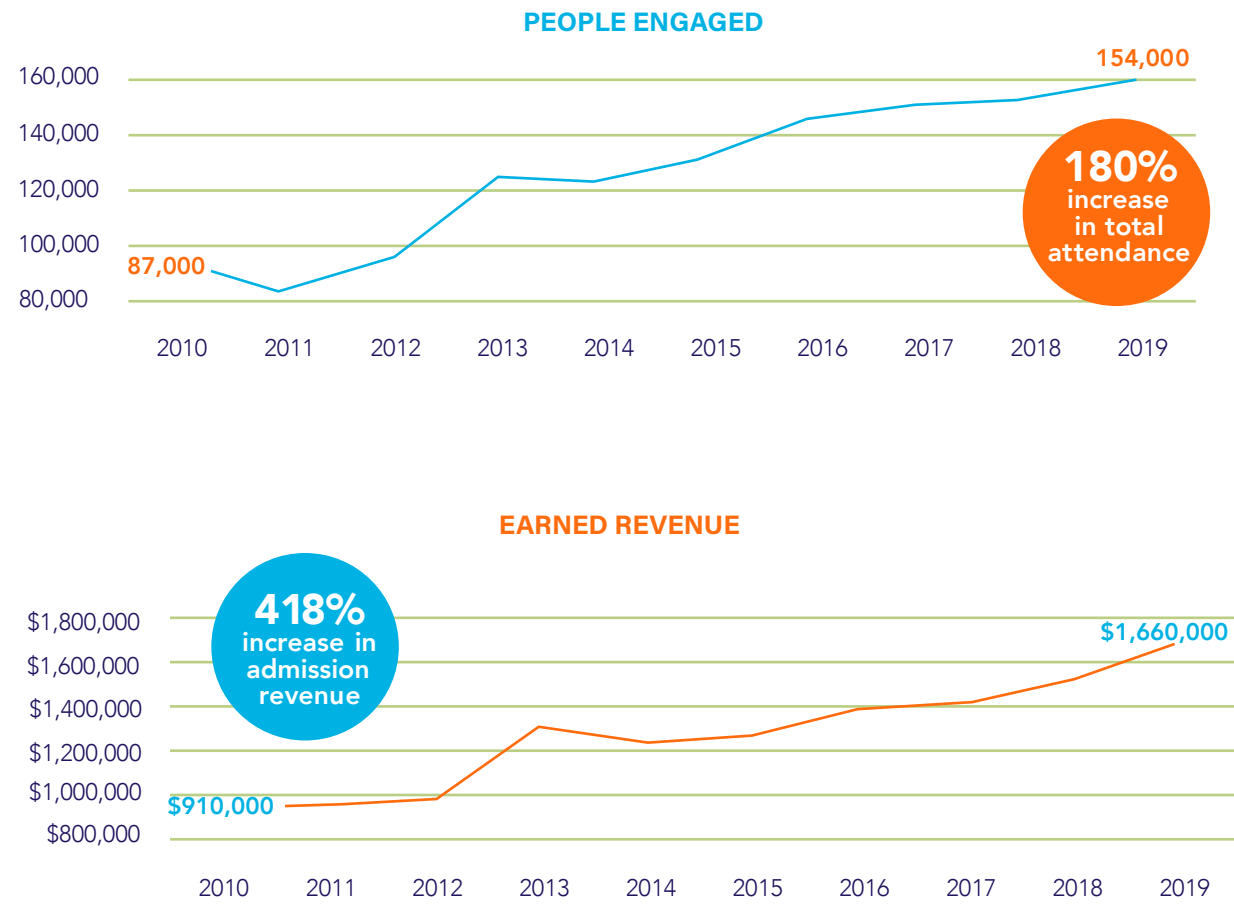
The new Da Vinci Science Center at PPL Pavilion will inspire future scientists and encourage more inventors like Ambrose Cavalier of Saylorsburg, Pa., who was a participant and award winner in the Inventors Lab program. He earned his second U.S. patent at the age of 14 for a modification to his invention of an adjustable dispensing bottle cap!





A Decade of Growth

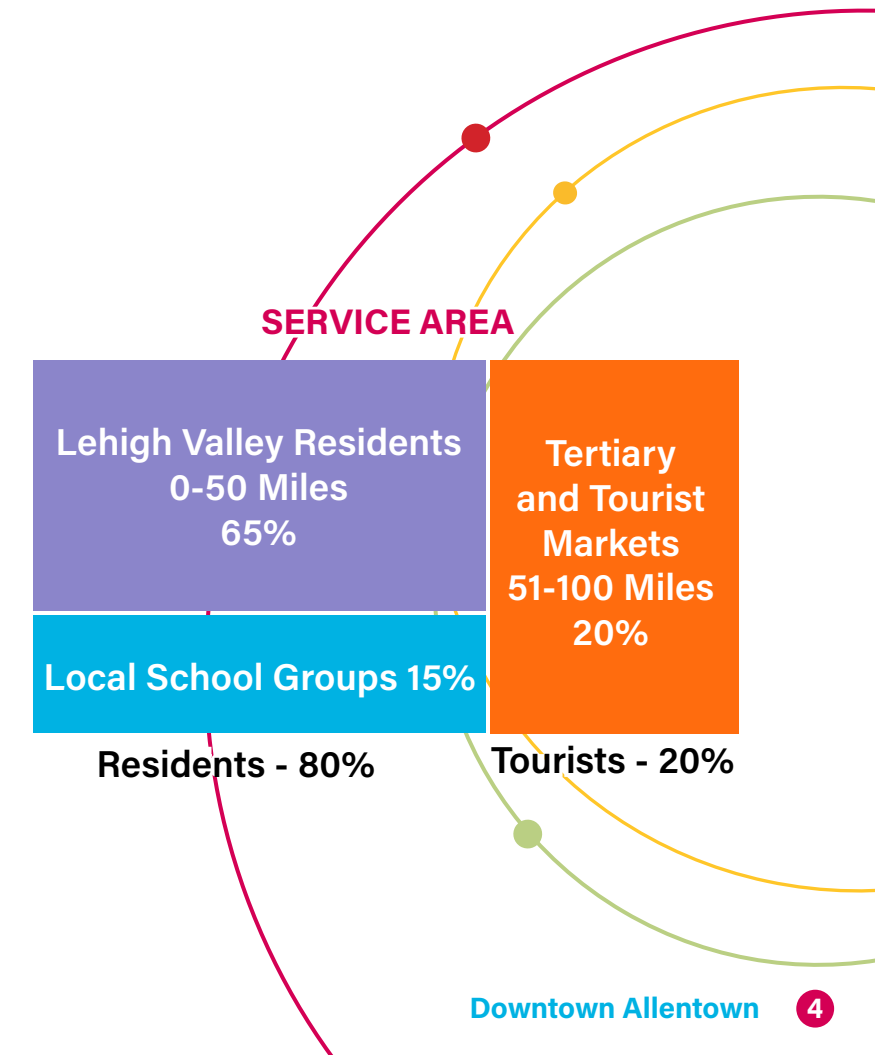
The Da Vinci Science Center nearly doubled the number of visitors and program participants over the last ten years, underscoring the overall interest and demand for informal science learning.



Investing to Meet the Demand

The Lehigh Valley's economic growth ranks among the top 10 regions nationwide with a population size between 200,000 and 1 million. As the region grows, so too must the Science Center to prepare our citizens to be STEAM literate and develop the creative talent to fuel our economy.

The new Da Vinci Science Center at PPL Pavilion will extend its reach to 20 counties in eastern PA and western NJ.





CURIOSITY HALL



SCIENCE IN THE MAKING



LEHIGH RIVER WATERSHED



MY BODY AND IMMERSIVE BODY



A 21st Century Science Center

uniquely inspired by Leonardo Da Vinci in the heart of Allentown's revitalization district

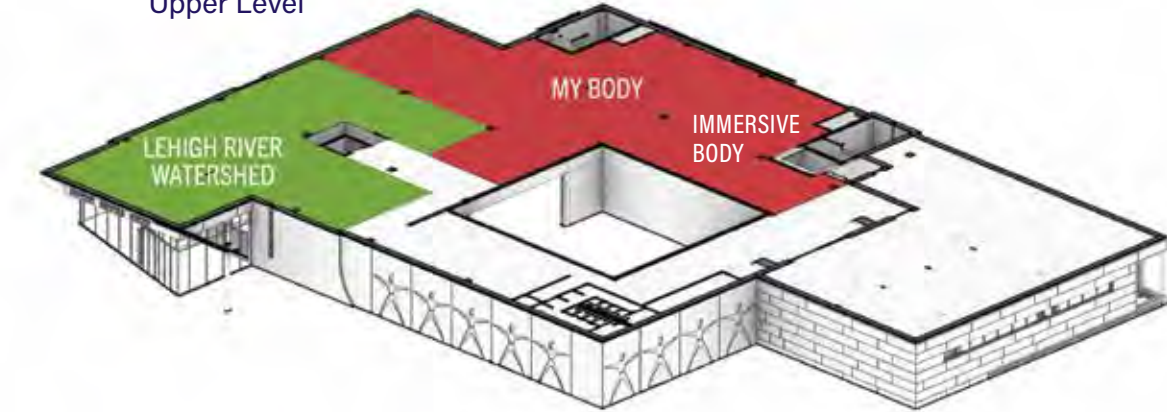
The new world-class Science Center will feature a full-day STEAM learning experience on par with those typically found in major metropolitan areas.

GOALS

- Triple the exhibit space of its current facility to promote active learning and make STEAM accessible, resonant, and relevant for the broadest audience
- Double the demonstration and workshop space of its current facility to provide education and training programs to build and master skills
- Expand resources for teachers and students to catalyze community efforts to achieve equitable access to STEAM learning and careers
- Increase revenues and leverage economies of scale to ensure long-term sustainability

Exhibit Galleries

Upper Level



Main Level



Curiosity Hall

At the core of the Da Vinci Science Center at PPL Pavilion is an impressive, memorable, double-height grand courtyard centered on a monumental human figure. Curiosity Hall is about the power of human ingenuity, curiosity, innovation, and imagination. It celebrates both the human body and mind through hands-on games and social play, and large-scale media installations.

Visitors will be introduced to the life and work of Leonardo da Vinci and see his story as the portal to stories about inspiring people from all over the Lehigh Valley. The iconic 60-foot human figure at the center

of the space creates a dynamic experience that takes inspiration from Leonardo da Vinci's Vitruvian Man, melding science, art, and math to become a symbol of the Science Center experience: limitless curiosity, creativity, and discovery. It highlights the wonder of the human body, and the innovative thinking of health and medicine in caring for our wellbeing, both as individuals and as communities. Visitors will be able to insert themselves into the narrative and see their bodies in different, surprising, larger than life ways, and imagine the potential of their own creativity and curiosity.

"Learning never exhausts the mind!"

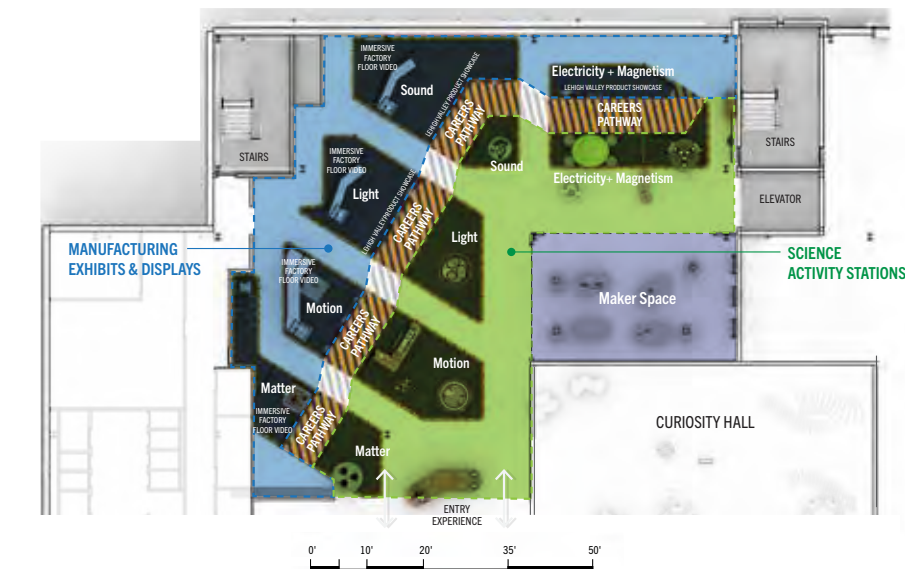
-Leonardo da Vinci





Science in the Making

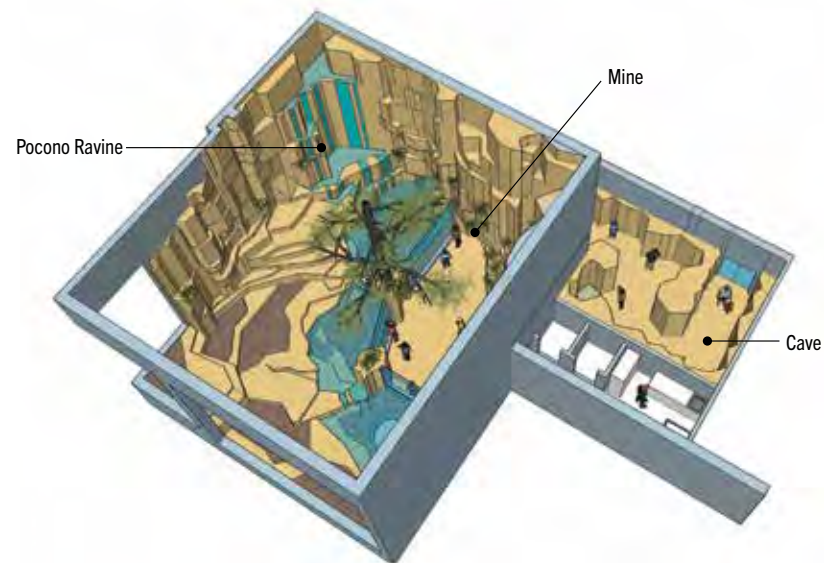
Science in the Making invites visitors to explore scientific principals and phenomena and how they are applied in everyday making and manufacturing processes. Visitors will experience innovation in Lehigh Valley industry through its people and products and participation in active making. The exhibits showcase Lehigh Valley companies and jobs that use science, technology, engineering, art, and math to bring ideas to life.



Lehigh River Watershed

The Lehigh River Watershed exhibit follows the flow of water on a journey through local natural landscapes and then back to the urban environment of downtown Allentown. Visitors will encounter some of the live

animals indigenous to the area including playful North American river otters and discover the delicate interdependency of man and nature right here in our own backyard.



"Human genius... will never discover an invention more beautiful... than does nature, because in her inventions nothing is lacking, and nothing is superfluous."

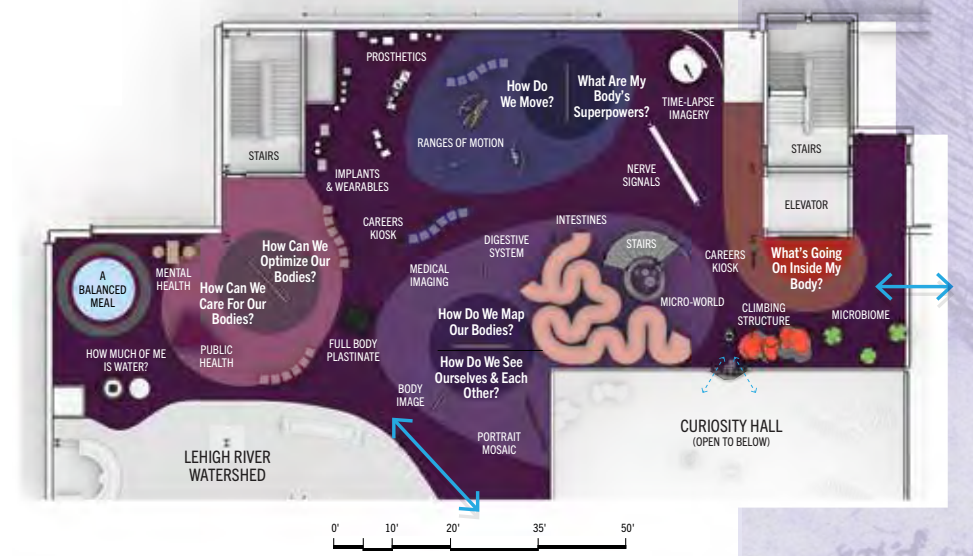
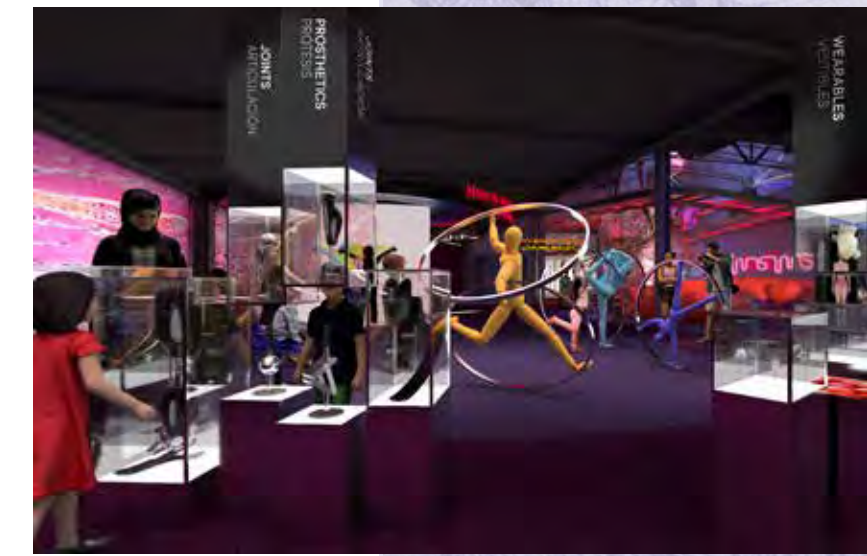
- Leonardo da Vinci





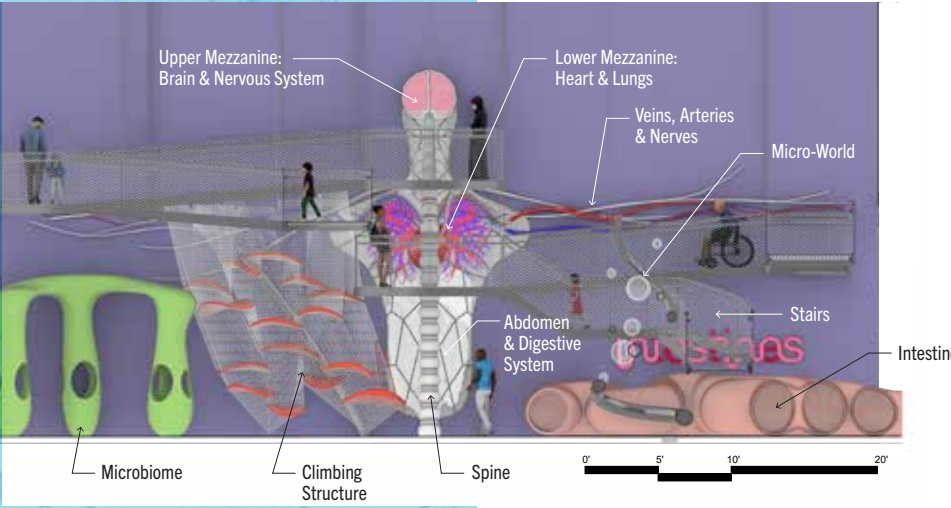
My Body

My Body connects visitors to their bodies through hands-on interactive exhibits and stories that help them experience the body, its systems, and care in new and inspiring ways. Visitors of all ages can find answers to common health-related questions, interact with physical models and specimens, see cutting edge medical technology, and hear from local healthcare professionals about careers in the Lehigh Valley region.



Immersive Body

The Immersive Body turns the inside of the body into a large-scale playground where visitors can explore and play, tunneling through intestines, climbing through the torso, following blood flow through veins and arteries, and manipulating the brain, heart, and lungs. Experienced in conjunction with the My Body exhibits, visitors of all different backgrounds, ages, and engagement types will find something new and intriguing to discover about how our bodies function.



Traveling Exhibits Gallery

The new science center features a 9,000 square foot Traveling Exhibits Gallery. This gallery makes it possible to host the largest and most sought-after blockbuster exhibits available to science centers in North America. The traveling exhibits will attract large audiences from within and outside the region and keep them coming back time and again.



Theater

This 180-seat theater is fully equipped to deliver live science demonstrations, lectures, projected films, and live-streamed events.

Located adjacent to Curiosity Hall on the Main Level, it features a state-of-the-art audio-visual system capable of connecting visitors to STEAM professionals from across the globe.

The space is equipped with a durable and flexible stage outfitted to host an array of live science demonstrations, no matter how messy, corrosive, or flammable.

The theater is home to the PPL Electricity show and demonstration space produced and designed to teach kids all about electricity and electrical safety.



Da Vinci STEAM Learning Center

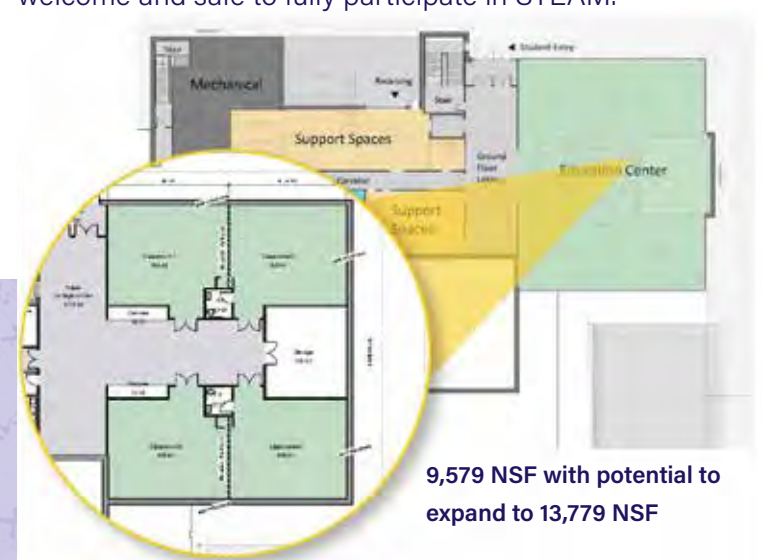
Home of STEAM Team Professional Development and Outreach Programs.



The Da Vinci STEAM Learning Center will serve as a regional Center of Excellence, working with school and community partners to bring innovative, interdisciplinary STEAM education to students on site and throughout the greater Lehigh Valley region. The Da Vinci Science Center is committed to ensuring equitable access to programing and will foster a culture of diversity and inclusion, where everyone feels welcome and safe to fully participate in STEAM.

The Da Vinci STEAM Learning Center will

- Provide in- and out-of-school STEAM learning experiences for the more-than 100,000 preK-12 school children in the Lehigh Valley
- Expand access for low-income youth and families across the region through outreach programs at school and community sites
- Serve as a laboratory for training pre-service and in-service teachers
- Partner with the Allentown School District, PA's 3rd largest school district, to increase student achievement and college and career readiness in STEM
- With partners, offer STEAM education and skills training that is accessible to the more than 50,000 low-moderate income residents in surrounding neighborhoods

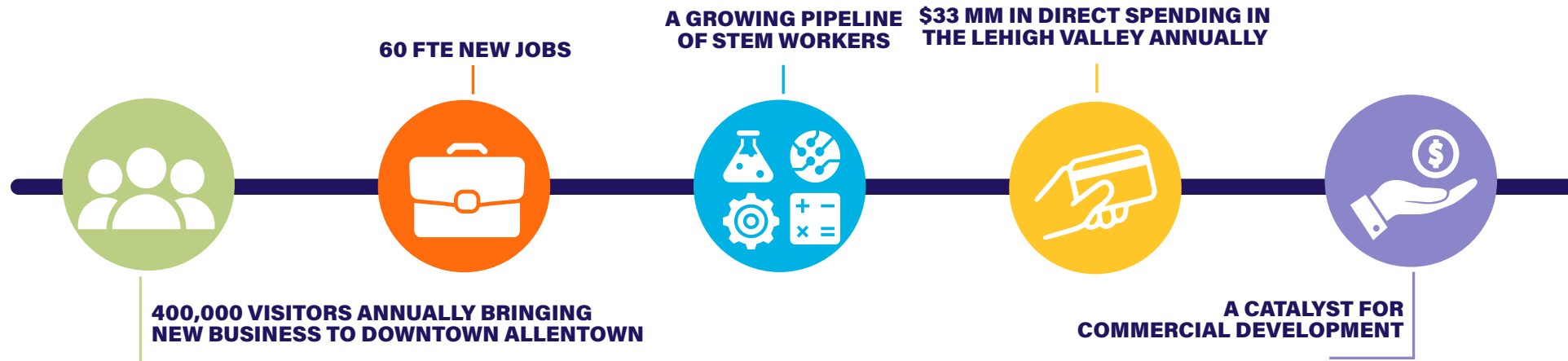


" I have been impressed with the urgency of doing. Knowing is not enough; we must apply. Being willing is not enough; we must do."

Leonardo da Vinci



Community and Economic Impact



The Da Vinci Science Center at PPL Pavilion will welcome over 400,000 visitors of all ages annually, create 60 new full-time equivalent positions at its location, and infuse \$33 million in economic output in downtown Allentown annually. The major new “day out” family venue, located adjacent to the PPL Arena, will activate downtown shopping and entertainment and be a catalyst for a second wave of investment in Allentown’s Neighborhood Improvement Zone (NIZ).

Located in the heart of downtown Allentown, the Da Vinci Science Center at PPL Pavilion will be within one-mile’s walking distance of 10 public and private schools and 52,000 residents, 72% from low and moderate-income households. The new facility will expand access to hands-on science learning for these audiences.

TARGET BENEFIT AREA - ONE MILE RADIUS
Home to 52,000 residents, 72% of households from low-moderate incomes ● = schools



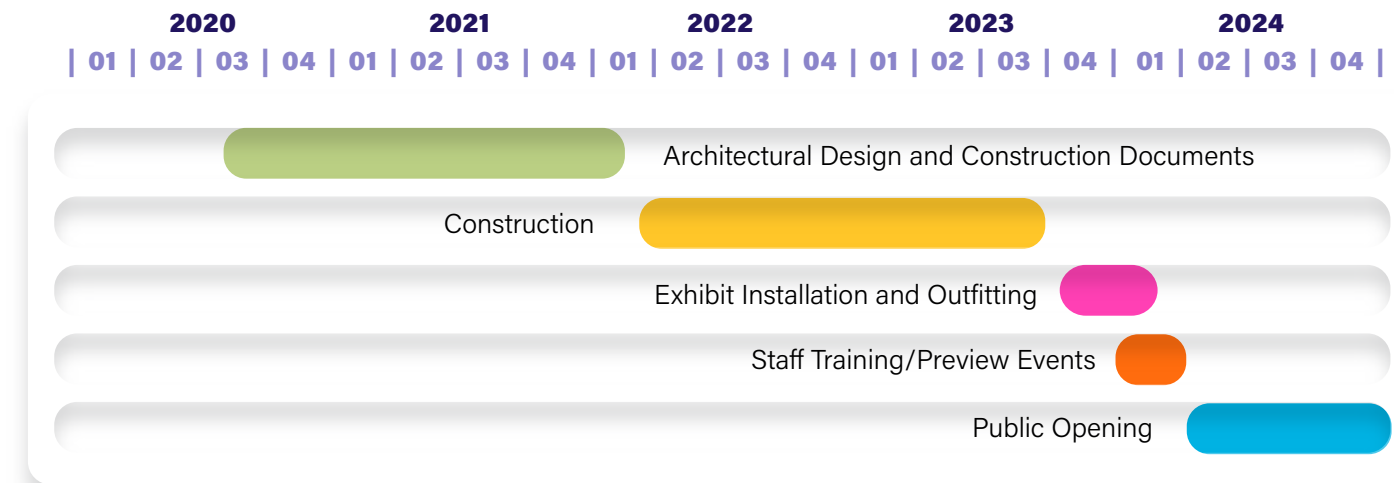
Premiering in 2024

Schematic design for the project is complete, with design development underway. Pending fundraising progress, groundbreaking is anticipated in spring 2022, with plans for the new science center to open to the public in spring 2024. The total cost of the capital project as currently envisioned is \$65 million.

“Our vision for Da Vinci Science Center at PPL Pavilion is bold, but critically important to our region. The Lehigh Valley is among the top five fastest growing regions in the Northeast U.S. For our region to continue to grow and thrive, we must invest in STEAM education and build the pipeline for skilled workers that will attract new companies and help our existing companies grow.”

Vincent Sorgi
President and CEO, PPL Corporation
Chair, Da Vinci Science Center Campaign

Project Budget	\$ Millions
Core and Shell	31.0
Site Acquisition	1.8
Exhibits	14.9
FF&E	1.4
Design & Development	2.0
Pre-Opening & Prjct Mngnt	4.7
Financing	7.5
Capital Contingency	1.7
Total Capital Project	65.0
Feasibility Studies	2.5
Programs and Operations	4.5
Total Campaign	72.0





DAVINCISCIENCECENTER.ORG • DOWNTOWN ALLENTOWN • 484.664.1002



DA VINCI
SCIENCE
CENTER®

2018

Community
Impact Report

EXPLORE. INQUIRE. ASTONISH.



THANK YOU

To all of our members and visitors, donors and community partners, volunteers, staff, and trustees for your unwavering support over the years!

Dear Friends,

In this report we celebrate the bold dreams of our early founders and the Da Vinci Science Center's success over the last 20 years. In 1999, a small group of trustees established the Discovery Center of Science and Technology, an independent non-profit that grew into the science center we have today. In 1999, Leonardo da Vinci's Horse, Inc. a non-profit organization in Allentown, Pa., installed a 24-foot-tall bronze horse in Milan, Italy, realizing the bold vision of its founder Charles C. Dent to fulfill Leonardo da Vinci's dream. In 2003, these two organizations came together to create what we know today as the Da Vinci Science Center.



With your generous support over the years, our science center has grown dramatically and impacted hundreds of thousands of lives, igniting lifelong interest in science, technology, engineering, art, and math (STEAM). 2018 was another record breaking year with participation in science center experiences exceeding past levels, fueled by continued investment in new programs and school and community partnerships. We served close to 150,000 people at our Allentown facility and at schools and community sites throughout the region. On the pages that follow, we share examples of how your support was invested in new exhibits and programs at our Allentown facility and throughout the region.

However, with growth, comes challenges. Our current facility is not able to meet the increasing demand for STEAM education. Like the science center founders and Charles C. Dent, we are prepared to act boldly to create a world class resource that will serve Lehigh Valley families and schools for the next 20 years and beyond. Stay tuned as our plans evolve. Bold dreams are part of the science center's DNA, and we are committed to expanding our ability to deliver our mission "to bring science to life and lives to science in our region."

On behalf of the Board, staff, and our volunteers, we thank you for your tremendous support and invite you to join us as we enter the next chapter of our development.

With heartfelt thanks,

Vincent Sorgi
Chairman of the Board

Lin Erickson
Executive Director and CEO



CELEBRATING 20 YEARS

OF BRINGING SCIENCE TO LIFE AND LIVES TO SCIENCE

THEN & NOW



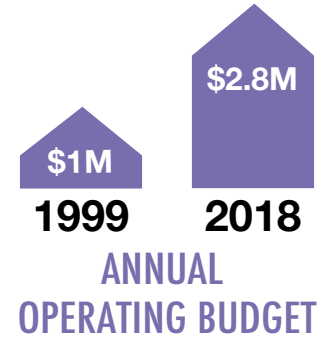
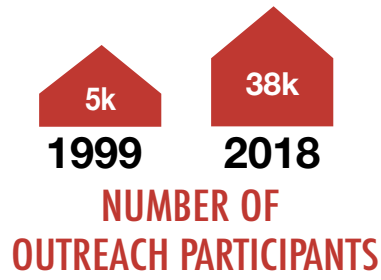
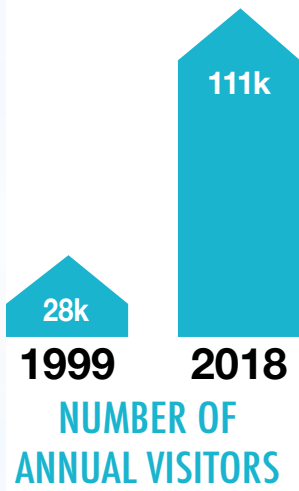
SMART Discovery Center in Bethlehem (2001)
and Da Vinci Science Center in Allentown (2019)

*Being willing is not
enough, we must do.*

LEONARDO DA VINCI



Former and Current Board Chairs: J. Robert Lovett,
Ph.D., 1999-2001 & Vincent Sorgi, 2014-Present



20 YEAR JOURNEY

1999

Became an independent non-profit organization

Unveiling of Leonardo's Horse in Milan, Italy

2003

Merged with Leonardo da Vinci's Horse, Inc.

2005

Relocated to Allentown, PA

2018

Record breaking annual participation of 149,000+

Installation of the 24-foot bronze horse sculpture in Milan, Italy (1999)



Charles C. Dent with a clay model of the bronze horse



IMPACT

EDUCATIONAL IMPACT:

Science Center programs enable participants to make personal connections between the content and experience of programs and their own knowledge and experiences. The Da Vinci Science Center uses five measures to assess the educational impact of programs. These measures are derived from current research on Informal Science effectiveness and Education Impact Measurement Methodologies.

KNOWLEDGE

+

SKILLS

+

ENGAGEMENT



"I learned about spotted lantern flies and their harmful behaviors in my summer program. When my friends were saying 'Eww! A bug', I could tell them what kind of bug it was, why it is harmful, and what to do when you see one!" - Student



"Our students are quickly becoming little scientists because of your programs."
- After School Coordinator



"My child spent most of our day in Leonardo's Creativity Studio - almost 2 hours! We decided to get a membership so we can come back and experience everything the Da Vinci Science Center has to offer throughout the year." - Parent



+ **ATTITUDES** + **BEHAVIOR** = **IMPACT**



"I loved how the sense of empathy in our class grew...from being disgusted by bugs to being amazed by them and wanting to protect them."
- Teacher



"I ran into a student who, after learning Arduino in our program, told me about all the projects she completed at home with the new knowledge and skills she learned. She will be back for Arduino again next summer!"
- Da Vinci Summer Camp Counselor



Learning never exhausts the mind.
LEONARDO DA VINCI

FRIENDS, FACTS & FIGURES

DRIVING OUR IMPACT

The impact of the Da Vinci Science Center in the community is made possible by our generous donors. With your support, we have championed the development of one generation and are poised to encourage the next.





LIFELONG IMPACT

REBECCA McCABE

Rebecca McCabe has been involved with the Da Vinci Science Center as a program participant, volunteer, and staff member. A Bethlehem resident, she participated in the Inventors Lab program and LEGO Robotics summer camp in 2011-12 and volunteered her time as a summer camp junior counselor in 2015. In 2017, Rebecca joined the education staff as a summer camp instructor. Also in 2017, she was honored at the Da Vinci Science Center Hall of Fame Awards Gala with a Student Excellence Award and college scholarship. She is currently completing her sophomore year at MIT majoring in mechanical engineering.



"The Science Center programs I did in middle school definitely equipped me with an engineer's mindset, and I aimed to instill this same curiosity in campers when I returned as a counselor. It was the Da Vinci Science Center that sparked my scientific passions and continues to empower me today."

Rebecca McCabe,
2017 Student Excellence Honoree

*The noblest
pleasure is the joy
of understanding.*

LEONARDO DA VINCI

CORPORATE & FOUNDATION PARTNERS

BRINGING SCIENCE TO LIFE



**Jack-O-Lantern-Lane
Halloween
Experience**



**'Frogs & Friends'
Summer Exhibit**



Career Connection Days

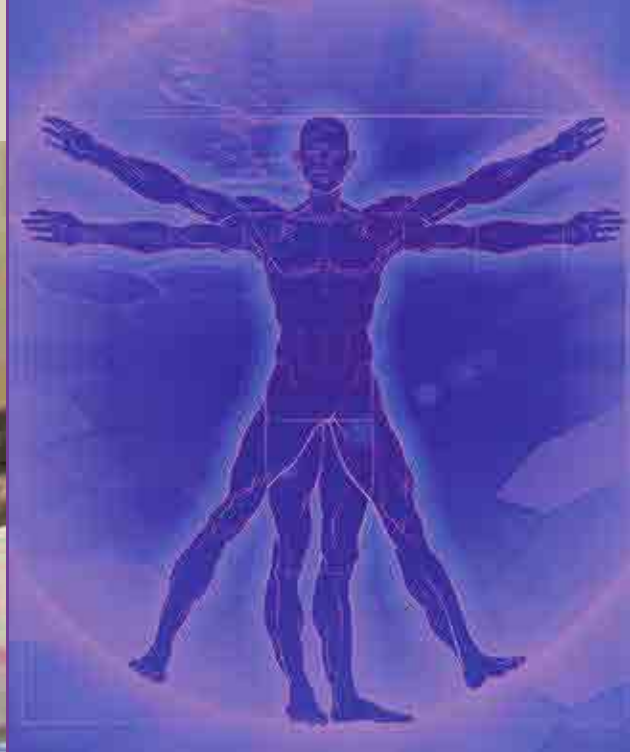
THE DONALD B. AND DOROTHY L.
STABLER FOUNDATION

*Realize that
everything connects
to everything else.*

LEONARDO DA VINCI



Cyndi the Syndaver



AND LIVES TO SCIENCE

BB&T



STEM Summer Learning



Leo's Creativity Studio



ATAS International, Inc.
Sustainable Building Envelope Technology



MEGA Brain

INDIVIDUAL PARTNERS

BRINGING SCIENCE TO LIFE



INSPIRING INNOVATION FRANK SCHWEIGHARDT

It is hard to imagine that anyone could have a more unique Da Vinci Science Center career than Frank Schweighardt, Ph.D. Shortly after his retirement from Air Products, Frank came to the Center intending to make a difference with visitors on the exhibit floor. In the span of five years, he went from being a satisfied exhibit floor volunteer, to being the Center's interim CEO, to returning to his post on the exhibit floor, to being elected to the Da Vinci Board of Trustees, and then to being elected chairman in May 2010.

As a chemist and a holder of more than 40 American and foreign patents, Frank is an inspiration to aspiring young scientists. Since the inception of the Inventors Lab program, more than 240 students have developed patentable ideas and nine showcase winners have submitted full patent filing and/or provisional patent applications. As of April, 2019, **six students** have earned **seven** United States **patents**.

*The natural desire
of good men is
knowledge.*

LEONARDO DA VINCI

LEONARDO SOCIETY

The Leonardo Society is comprised of individuals and couples who make an annual gift of at least \$1,000 toward the Da Vinci Science Center's mission. Last year, Leonardo Society members generously contributed **more than \$60,000** to support Da Vinci Science Center programs!



AND LIVES TO SCIENCE

SUPPORTING AT-RISK YOUTH

LINNY FOWLER SCIENCE INQUIRY FUND

The Linny Fowler Science Inquiry Fund provides scholarships to underserved students for Da Vinci Science Center school field trips, outreach programs, summer camps, and other experiences. The fund is supported primarily through special pledge appeal gifts made by guests who attend the annual Hall of Fame Awards Gala (page 18). Thanks to their generosity, last year nearly **6,000 students** participated in hands-on science programs or visited Da Vinci free of charge.

"I think children are naturally curious about how things work. The Da Vinci Science Center embraces and encourages their interests by providing opportunities for them to experiment and learn. It allows children to be in the driver's seat. I am so pleased the Lehigh Valley has this wonderful venue to help them explore the wonders of science."

Jenny Kempf,
Leonardo Society member



VOLUNTEERS

DEDICATED AND PASSIONATE VOLUNTEERS HAVE PROVIDED LEADERSHIP AND SUPPORT FOR OUR DEVELOPMENT OVER THE YEARS

SCIENCE CENTER LEADERSHIP

Groundbreaking ceremony for the Da Vinci Science Center facility in Allentown (2004).



EXHIBIT FLOOR

"I am interested in volunteering at the Da Vinci Science Center because of my medical background and my love for the sciences. Education is key to bringing an interest in science to our children. Making science fun is the beginning!"

Maria Pursel,
2018 Vitruvian Volunteer



**LAST YEAR, 560 VOLUNTEERS
COMPLETED 8,878 HOURS OF SERVICE!**

INVENTORS LAB

Scientists, engineers, and patent attorneys generously contribute hours of service helping students develop invention ideas and file patent applications.



EXHIBIT INSTALLATION

Volunteer groups like AirPRO, the Air Products Retirees Association, regularly help build and install new exhibits throughout the year.

WOMEN IN SCIENCE & ENGINEERING INITIATIVE

2018 WISE FORUM

February 13, 2018
Zoellner Arts Center at
Lehigh University
Bethlehem, PA

THE WOMEN IN SCIENCE AND ENGINEERING (WISE) FORUM

presented by **Daiichi Sankyo, Inc.**, featured a Mentoring Dinner followed by a Public Panel Discussion with distinguished female leaders in STEM. The dinner was attended by more than 275 guests, including 150 high school girls who networked with female STEM professionals and college students and faculty. Following the dinner, a panel of six female distinguished STEM leaders shared their challenges, accomplishments, and encouragement with a crowd of over 400.

In 2015, the Da Vinci Science Center established the WISE Initiative as part of its broader commitment to supporting aspiring young girls and female practicing STEM professionals. The Da Vinci Science Center offers a number of programs and events throughout the year to introduce female students to STEM career pathways and to engage female STEM professionals and provide them the opportunities to network and support each other.

In 2017 the WISE initiative garnered national attention and federal funding through the Institute of Museum and Library Services (IMLS). With the support of a two-year grant from IMLS entitled, "Building a Community Ecosystem to Support Women in Science and Engineering," the Da Vinci Science Center is partnering with area colleges and universities and community organizations to identify how we can develop programs and services that address the needs of area women and girls and enhance the STEM learning ecosystem in the Lehigh Valley and surrounding communities.

WISE INITIATIVE PROGRAMS & EVENTS

Annual WISE Forum & Dinner

Women in STEM Career Connection Days

Professional Development Programs for Teachers

STEM Girls! After School Club

Girl Scout Day and Camp-In Programs

WISE Network Events for STEM Professionals

Women in STEM Research Study



2017-18 WISE SPONSORS

TITLE SPONSORS

The Dexter F. & Dorothy H. Baker Foundation
The Institute of Museum and Library Services

WISE FORUM

PRESENTING SPONSOR

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Intertek Chemicals & Materials Allentown	Sustainable Energy Fund
Just Born Quality Confections	UGI Utilities, Inc.
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Lehigh Valley Health Network	Wood Heat, Inc.



Pictured L-R: Sharon Alexander, CFRE, Campaign Manager at DSC; Lin Erickson, Executive Director and CEO at DSC; Susan Yee; Wendy Body; Marielle Cohard-Radice; Terri Kelly; Lisa Strohm; Nancy McLane; and Kathryn WorriLOW, Ph.D., Founder and CEO, LifeAire Systems & Co-Chair of DSC WISE Network

2018 WISE FORUM DISTINGUISHED PANELISTS

Wendy Body, Senior Project Manager, Alvin. H. Butz, Inc.
Marielle Cohard-Radice, MD, Executive Vice President, Global Head of Development, Daiichi Sankyo, Inc.
Terri Kelly, President & CEO, W.L. Gore & Associates, Inc.
Nancy McLane, Senior Vice President of Operations, Orasure Technologies
Lisa Strohm, MBP, CFP, Founder and CEO, The Athena Network
Susan Yee, Founder and CEO, Active Data, Inc. (Moderator)

WISE EXECUTIVE ADVISORY COUNCIL

The WISE Initiative is overseen by an Executive Advisory Council.

CO-CHAIRS

Erin Armstrong, B. Braun Medical
Kathryn WorriLOW, Ph.D., LifeAire Systems

MEMBERS:

Mary Armstrong, Ph.D., Lafayette College
Terry Capuano, MSN, MBA, Lehigh Valley Health Network
Lin Erickson, Da Vinci Science Center
Bonnie Hall, Crayola
Rachel Hayden, Just Born Quality Confections

Stephanie Hnatiw, YWCA Bethlehem
Kristen Jellison, Ph.D., Lehigh University
Joy Karnas, Ph.D., Cedar Crest College
Maureen Maier, Girl Scouts of Eastern Pennsylvania
Tamala Mallett Moore, MD, MBA, ABFP, Sanofi Pasteur
Megan McGovern, Mack Trucks
Darlene Pors, HT Lyons
Kelly Rindock, Steel Valley Investment Group of Raymond James & Associates, Inc.
Susan Schierwagen, Victaulic
Jean Vincent, Evonik Corporation



LIFETIME ACHIEVEMENT
AWARD
Frank Schweighardt, Ph.D.

April 28, 2018
ArtsQuest Center
at Steelstacks
Bethlehem, PA



*Simplicity is the
ultimate
sophistication.*

LEONARDO DA VINCI

2018 HALL OF FAME AWARD WINNERS

SPIRIT OF VERROCCHIO MENTORSHIP AWARD

Vincent Sorgi, Senior Vice President & CFO, PPL

GRAND MAESTRO CORPORATE AWARD

WFMZ-TV

DISTINGUISHED FEMALE STEM LEADERSHIP AWARD

Cedar Crest College

EDUCATOR EXCELLENCE AWARD

Mary Antoni, Teacher & STEM Coordinator, Lansdale Catholic High School

EDUCATOR EXCELLENCE STEM LEADERSHIP AWARD

Ignacio Jayo, Science Teacher, William Tennent High School

NEW EDUCATOR EXCELLENCE AWARD

Cassi Williams, Science Teacher, Jewish Day School of the Lehigh Valley

STUDENT EXCELLENCE AWARDS

Neil Deshmukh, Sophomore, Moravian Academy

Sai Mamidala, Junior, Garnet Valley High School

Sophia Swartz, Senior, Central Bucks High School South

Alessandra Temerte, Junior, Central Bucks High School East

2018 HALL OF



Nearly 300 guests attended the 2018 Hall of Fame Awards Gala, presented by **PPL**. The Gala, organized by a volunteer committee, celebrated the accomplishments of students, educators, and community leaders in advancing STEM education and raised funds to support Da Vinci Science Center operations and the Linny Fowler Science Inquiry Fund for scholarships for underserved youth in the region.

2018 HALL OF FAME AWARDS GALA SPONSORS

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PPL

RECEPTION SPONSOR

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Maxine Erdman | Mary Gedney | Sandy Lovett

Laura McHugh | Edie Ritter | Michelle Sorgi

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Judy Belaires, CFRE

Sharon Alexander, CFRE

Matthew Easterwood

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Honor Roll of Giving recognizes all donors whose financial commitments have supported the Da Vinci Science Center during the most recently completed fiscal year.

\$100,000+

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County of Northampton
Highmark Blue Shield
PA Dept. of Education/
Allentown School District
Vince and Michelle Sorgi

\$50,000+

ATAS International, Inc.
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Commerce

\$25,000+

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Judy Belaires, CFRE
Joseph Bondi
Celina Daddario
Matthew Easterwood
Mary Ellston
Lin Erickson
Tyler Groft
Kelly Martin
Maureen Michael

*Does not include in-kind gifts
+ Deceased

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The Leonardo Society is a giving society for individuals who make an unrestricted gift of \$1,000 or more in a year to support Da Vinci Science Center operations.

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Hank and Joanne Barnette
Gus and Judy Belaires
Rob and Kristen Bennett
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*Members as of March 31, 2019

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Lifetime Giving Societies recognize donors who have made significant cumulative financial commitments since 2002.

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PA Redevelopment Assistance
Capital Program
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The Discovery Society: \$250,000+

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ATAS International, Inc.

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St. Luke's University Health
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The 1995 Society: \$100,000+

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Pennsylvania Historical and
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The Ryan Family Foundation
Joseph and Rita Scheller
Teva Pharmaceuticals
UGI Utilities, Inc.
Wells Fargo

The Laureate Society: \$50,000+

Arcadia Foundation
Greg Butz
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* Deceased

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The Science Catalyst Society is a giving society for individuals or entities who have made contributions of \$5,000 or more to invest in exploring the feasibility of a major expansion of Da Vinci Science Center experiences.

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Brown Daub
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Greg L. Butz
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City of Easton
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Vince and Michelle Sorgi
Steward Easton Hospital
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Marshall and Kay Wolff
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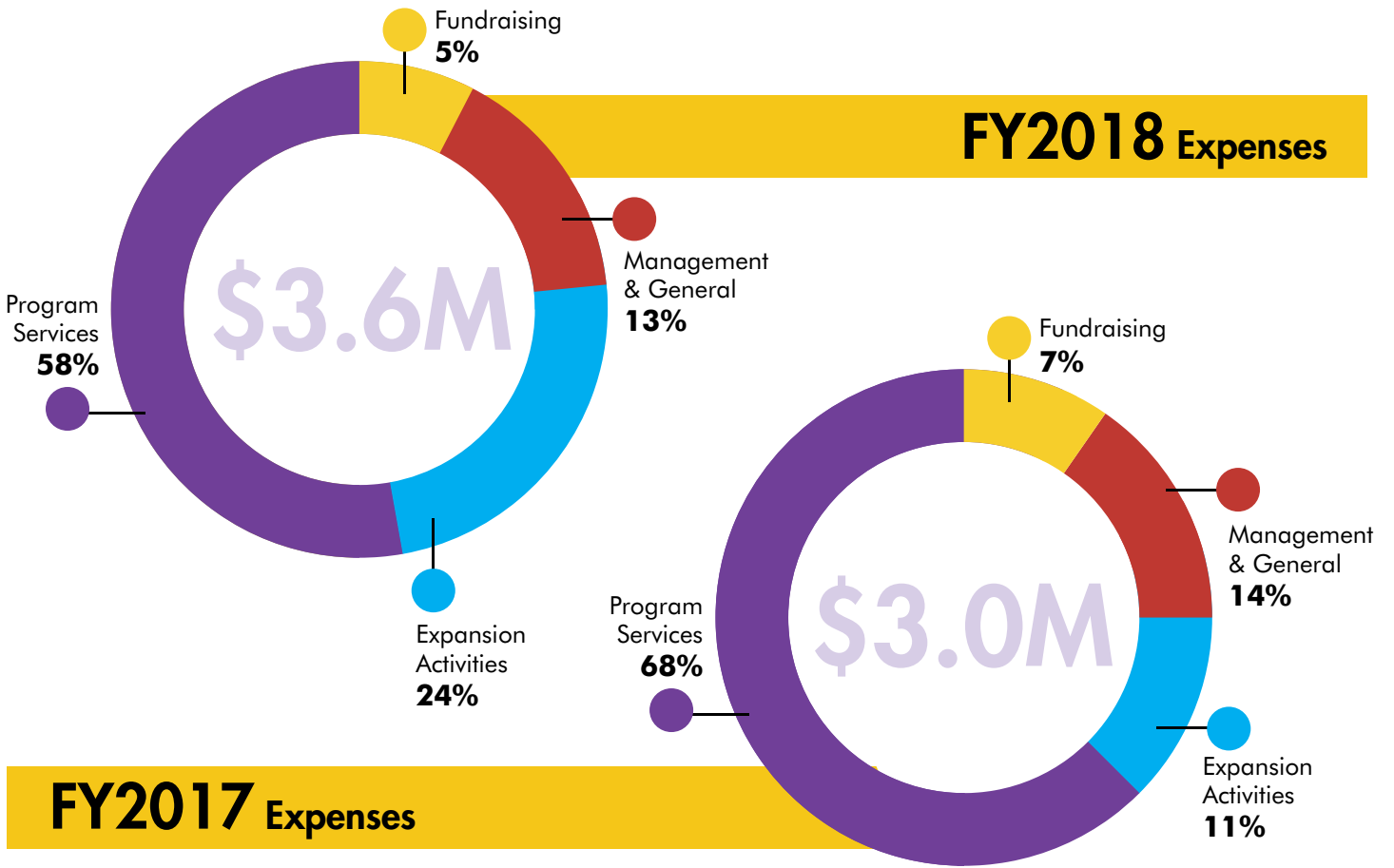
DA VINCI SCIENCE CITY



POISED FOR THE NEXT 20 YEARS

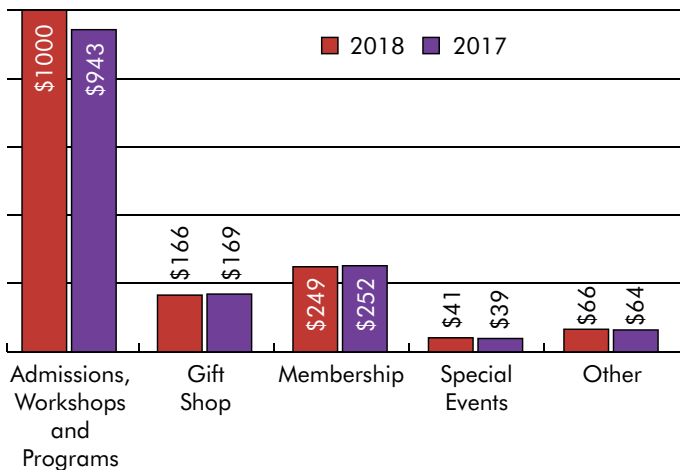


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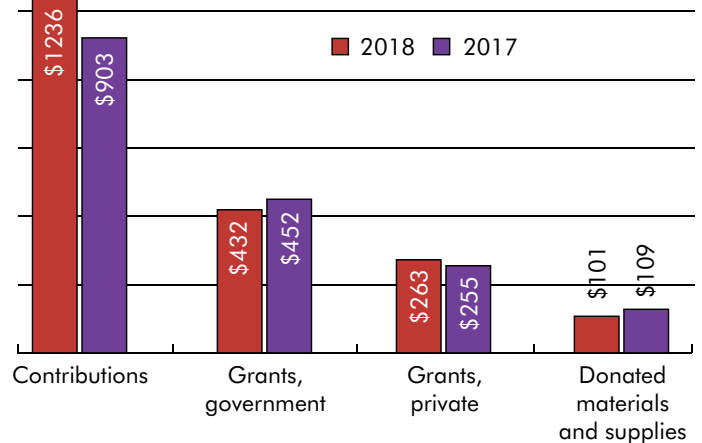


FINANCIALS

Earned Revenue by Source



Support by Source



Numbers are in thousands (000s)

Statement of Activities Years Ended June 30		Fiscal Year 2018	Fiscal Year 2017
Revenues	Admissions, workshops and programs	999,688	942,546
	Gift shop	165,806	168,599
	Membership	249,426	252,358
	Special events (net of expenses)	41,102	39,028
	Other	65,902	63,943
	Total Revenues	\$1,521,924	\$1,466,474
Support	Contributions	1,235,867	902,673
	Grants, government	431,831	451,787
	Grants, private	262,500	254,914
	Donated materials and supplies	101,261	109,461
	Total Support	\$2,031,459	\$1,718,835
	Total Revenues & Support	\$3,553,383	\$3,185,309
Expenses	Program services	2,119,297	2,020,885
	Supporting services:		
	Management and general	461,226	420,909
	Expansion activities	872,025	326,018
	Fundraising	190,857	188,791
	Total Expenses	\$3,643,405	\$2,956,603
	Change in Net Assets	\$(90,022)	\$228,706
	Net Assets, beginning	\$6,705,216	\$6,476,510
Net Assets, ending	\$6,615,194	\$6,705,216	

Note: FY2018 includes expenses for expansion activities funded by contributions raised in FY2017

Statement of Financial Position Years Ended June 30		Fiscal Year 2018	Fiscal Year 2017
Assets	Cash, cash equivalents, CD's	530,954	783,927
	Accounts receivable	57,442	56,016
	Grants receivable	228,246	356,086
	Unconditional promises to give	273,334	386,898
	Inventory	13,240	16,525
	Prepaid expenses	60,249	72,865
	Total Current Assets	1,163,465	1,672,317
	Property and Equipment, net	6,140,630	6,236,366
	Unconditional Promises to give	374,017	16,100
	Total Noncurrent Assets	6,514,647	6,252,466
Total Assets	\$7,678,112	\$7,924,783	
Liabilities	Current portion of long-term debt	65,194	58,833
	Accounts payable and other liabilities	65,794	56,441
	Accrued expenses	94,421	97,117
	Deferred revenue	297,984	268,715
	Total Current Liabilities	\$523,393	\$481,106
	Long-term debt, less current maturities and unamortized costs	\$539,525	\$738,461
Total Liabilities	\$1,062,918	\$1,219,567	
Net Assets	Unrestricted	5,847,380	5,760,994
	Temporarily restricted	767,814	944,222
	Total Net Assets	\$6,615,194	\$6,705,216
	Total Liabilities and Net Assets	\$7,678,112	\$7,924,783



OUR PEOPLE

CHAIRMAN: Vincent Sorgi, Executive Vice President and Chief Financial Officer, PPL

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CHIEF EXECUTIVE OFFICER: Lin Erickson, Executive Director and CEO, Da Vinci Science Center

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Maureen Michael, Chief Administrative Officer and CFO

Judy Belaires, CFRE, Director of Philanthropy

Karen Knecht, Director of Education

Brian Strohecker, Director of Business Development

*As of March 31, 2019

MEET SHAIYAN.

We could not succeed without supporters like her and you.

Shaiyan is a 15-year-old Girl Scout of Eastern PA who saved Girl Scout cookie money and donated her earnings and time to bring 15 underserved children to the Da Vinci Science Center. Shaiyan spent an entire day with these students, teaching them about science, technology, engineering and math using resources normally not available to them. "I've never done anything like this before," said Shaiyan. "It's great to help out, and you feel better about yourself."

Imagine what we could accomplish if we were all like Shaiyan. Last year, with the support of friends like you and Shaiyan, we were able to bring science to life and lives to science for thousands in our community. This year, we can make an even greater impact.

Please consider a tax-deductible donation to the Da Vinci Science Center and help us inspire the next generation of scientists, inventors, and engineers.

The Da Vinci Science Center offers sponsorship and support opportunities, including planned gifts, at a range of financial levels. For more information, visit www.davincisciencecenter.org/support or call the Center's Philanthropy Office at 484-664-1002 x102.

The Da Vinci Discovery Center of Science and Technology, Inc. (or Da Vinci Science Center) is an independent nonprofit organization with IRS 501(c)3 status. The organization's Federal Tax Identification Number is 23-2824084. Contributions to the Da Vinci Science Center are tax-deductible to the fullest extent allowed by law. The official registration and financial information of the Da Vinci Science Center may be obtained from the Pennsylvania Department of State by calling toll-free, within Pennsylvania, 1-800-732-0999. Registration does not imply endorsement.

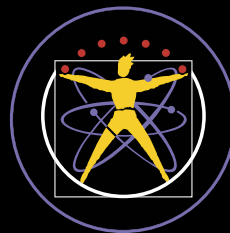


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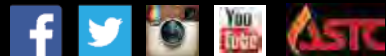
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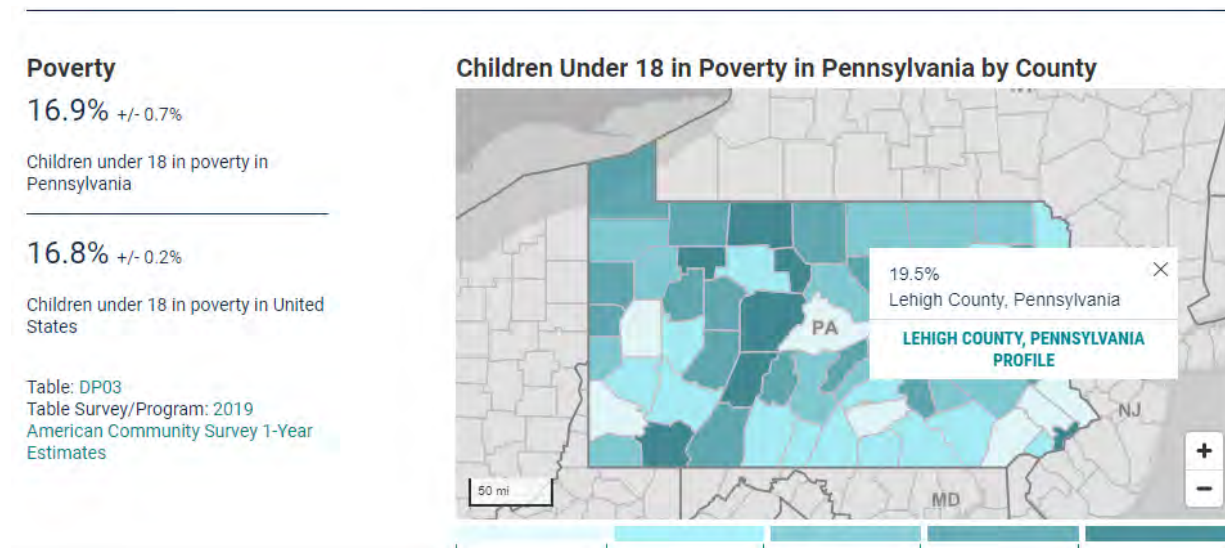
Tab 4. Community Impact

B. This project is increasing the economic health of Lehigh County.

1. Unemployment. While Lehigh County has maintained an unemployment rate at or below the state average and has had a growing population, the per capita income for this county is slightly lower than the state average. This indicates that even though Leigh County residents are finding employment, they are working for less money than the average Pennsylvanian.

Income & Poverty	Pennsylvania	Lehigh County, Pennsylvania
Population, percent change - April 1, 2010 (estimates base) to July 1, 2019, (V2019)	0.8%	5.6%
PEOPLE		
Income & Poverty		
Median household income (in 2019 dollars), 2015-2019	\$61,744	\$63,897
Per capita income in past 12 months (in 2019 dollars), 2015-2019	\$34,352	\$33,586
Persons in poverty, percent	▲ 12.0%	▲ 11.5%

At the same time, the percentage of children under 18 in poverty is higher in Lehigh County (19.5%) than the state average of 16.9% and the national average of 16.8%.



The Allentown School District is especially challenged by poverty when compared to the other school districts in Lehigh County with a significantly higher poverty rate (more than double) for children ages 5 to 17 compared to the rest of the county.

2019 SAIPE* School District Estimates

School District	Total population	# children 5 to 17	# children 5 to 17 in poverty	% of children in poverty
Allentown City School District	121,817	21,150	6,790	32%
Bethlehem Area School District	120,631	17,112	2,160	13%
Catasauqua Area School District	11,450	1,683	295	18%
East Penn School District	57,652	9,668	599	6%
Northern Lehigh School District	13,562	2,042	253	12%
Northwestern Lehigh School District	15,586	2,711	147	5%
Parkland School District	60,930	10,864	749	7%

*Small Area Income and Poverty Estimates

Source: <https://www.census.gov/programs-surveys/saipe.html> www.census.gov

By placing the new Da Vinci Science Center in the heart of the Allentown School District, we will increase the availability of STEAM education in the lowest-income neighborhoods of Lehigh County. Studies have shown that low-income school districts are most likely to have fewer resources for STEAM education, and the new science center will be placed within walking distance of the area’s schools with the fewest resources. This will increase opportunities for PreK-12 students in these low-income neighborhoods to have hands-on access to STEAM learning. Fostering an interest in STEAM education at a young age and building on that interest with programs that develop confidence and skills as they get older will help prepare them to pursue STEAM studies and careers. STEAM-related careers can provide opportunities for higher wages and increased employment, helping to break the cycle of poverty for families who have been in poverty for generations.

2. Declining Population: Lehigh County has a growing population. This item is NOT APPLICABLE to the project.

3. KOZ, KOE, KIZ, KSDZ, EZ, and KOIZ Designated Area: The project is not located in any of these areas. This item is NOT APPLICABLE to the project.

C. The project is increasing the quality of life.

1. Improving Civic, Cultural, or Recreational Facilities: The Da Vinci Science Center currently serves as the lead informal STEAM education institution for the greater Lehigh Valley, Pennsylvania’s third largest metropolitan area behind Philadelphia and Pittsburgh. The Science Center has been growing rapidly over the last decade and its current facility is no longer able to

meet the growing demand for STEAM education in the region. Both Philadelphia and Pittsburgh have benefitted for decades from their large, established science centers, The Franklin Institute, and the Carnegie Science Center, respectively. The new Da Vinci Science Center downtown Allentown project will provide the residents of the Lehigh Valley with a world-class science center facility like the residents of Philadelphia and Pittsburgh currently enjoy. It will also contribute to the region's ability to attract and retain employees who increasingly expect cultural amenities like the new science center in the locations they choose to live and work.

3. Improving Quality of Life: The site for the new facility was chosen for its location within the central business district of Allentown and its adjacency to many of the City's most impoverished neighborhoods, with the percentage of low and moderate-income (LMI) households exceeding 85% in some census tracts. While the facility will serve as a regional resource for the entire Lehigh Valley, many of the new science center's programs and exhibits will be designed to serve residents of the immediate neighborhoods in an intensive, ongoing fashion. The Science Center has identified the one-mile radius immediately adjacent to the new Science Center site as a target service area.

The population of the target service area is 52,596 individuals, 72.7% of whom live in LMI households. The service area comprises approximately 43% of the Allentown population and 54% of its LMI households. All the census tracts within the one-mile service area contain LMI populations in excess of 51%, and many census tracts contiguous to the service area are also comprised of majority-LMI populations.

The Science Center estimates conservatively that it will receive approximately 30,000 visits annually from residents within the target service area, including 21,800 visits from LMI individuals. As a result of planned efforts to target the service area with specially designed programs and marketing efforts, it is anticipated that these residents will visit the Science Center at a rate that is seven times greater than other residents of the "core" Lehigh Valley market area (0-25 miles from the site).

While the one-mile target area that is within a 20-minute walk of the new science center is the proposed service area, the Science Center's efforts to encourage attendance to the downtown facility will extend throughout the entire City of Allentown and will accrue to the benefit of all of its 122,000 residents, 58.4% of whom reside within LMI households.

Placing the new science center facility within walking distance of some of the City's most distressed neighborhoods and offering programs to local families, subsidized by external fundraising, will remove two of the greatest barriers (cost and accessibility) that science centers face in serving residents of LMI households.

Additionally, the Science Center is working with local community groups to shape the development of the new facility, engaging them in the design of the facility and its programs, and ensuring that, when opened, the new science center is embraced and utilized extensively by the

local community.

A recent study that explored the perceptions of science centers by low-income and minority groups noted that “inclusive informal science learning is not simple, but is a key issue for science education”. By working with the local community and taking a “designed for us” approach to this new facility, the low- and moderate- income, predominantly minority communities in the service area immediately surrounding the Science Center, will become regular users. These families will see the facility as “their Science Center”, and be the primary beneficiaries of this major STEAM learning resource.

D. The project has a regional impact.

1. Allentown Vision 2030 Plan: The Da Vinci Science Center Downtown Allentown project supports the Allentown Vision 2030 Plan adopted by City Council on December 17, 2019 as the City’s Comprehensive 10-Year Economic Development Plan. Section D.1. describes its alignment with the City’s Mission and Vision and four of the five Urban Systems defined in the 2030 Plan.

CONTEXT AND CRITICAL ISSUES – MISSION AND VISION

The Da Vinci Science Center Downtown Allentown project specifically supports the City’s commitment to the following issues critical to its vision for the future.:

Economic Inclusivity (pages 10-11): The new downtown science center will expand access to jobs, STEAM education, and economic opportunity for Allentown residents.

Jobs: The new science center will employ an estimated 50 full-time and 44 part-time employees (77.4 FTE positions). Nearly half of these (38.9 FTEs) will be new positions at an average wage of \$24.73, just above the estimated living wage for one person in the Allentown-Bethlehem-Easton area. An estimated 30.0 new FTE positions will be created by caterers and the retail store operating on the site.

The table that follows provides a projection of full-time and part-time positions created and retained by the science center as a result of the project. The 2020 staffing levels reflect the Da Vinci Science Center’s current operation. Positions will be added incrementally beginning in 2021 to support the expansion effort, with a major hiring effort during the lead-up to the public opening. The 2023 FTE estimates are expected to continue indefinitely to support the expanded operation.

Projected Staffing Schedule
Da Vinci Science Center Downtown Allentown
Assumes Public Opening by 12/31/2023

Year	2020	2021	2022	2023
FT Positions	25.0	28.0	35.0	49.0
PT Positions (FTE)	14.4	14.4	14.4	28.4
Total FTE Positions	39.4	42.4	47.4	77.4

The Science Center will work closely with the City of Allentown, community partners, and the Workforce Board Lehigh Valley to recruit Allentown residents to fill these positions.

STEAM Education and Economic Opportunity: Envisioned as a unique collaboration between the Da Vinci Science Center, the Workforce Board Lehigh Valley, area industry, school districts, and colleges and universities, the new science center will showcase regional industry, providing compelling exhibit experiences to capture visitors’ interest in STEM careers, combined with education and training programs to build skills and achieve mastery, setting a new standard for how science centers can be woven into the fabric of their local economies.

The Science Center will feature four main exhibit areas, focusing on themes where STEAM intersects people’s lives and industry sectors with high growth potential: My Body (healthcare), Science in the Making (manufacturing), the Lehigh River Watershed (energy and the environment), and Curiosity Hall (interactive experiences at the intersection of STEM and the Arts fostering creativity and innovation). The Da Vinci STEAM Learning Center will provide education and skills training for these industry sectors. From PreK through adults, participants will be able to pursue educational and career pathways to high demand STEM jobs throughout the region.

Outside-of-school time, the Da Vinci STEAM Learning Center will offer a STEM Career Ladder Program for students beginning in middle school and continuing as they get older -- providing a series of graduated opportunities through which young people from throughout the region can build skills, while moving from student to volunteer to part-time employee to full-time employee. As they assume increasing levels of responsibility, pay, and skill, they will prepare for future jobs at the science center, or in the community.

The workforce of the future will not look the same as it does today (Allentown Vision 2030 plan, page 47). Programs at the new science center will develop 21st century skills that will prepare students for future jobs, many that do not currently exist. The Science Center is currently working closely with the Allentown School District to prepare teachers to meet new Next Generation Science Standards. The Next Generation Science Standards will take effect in the Commonwealth of PA during the 2024-25 school year, just after the new facility opens. They are designed to help students develop an in-depth understanding of content and key skills—communication, collaboration, inquiry, problem solving, and flexibility—that will serve them throughout their educational and professional lives.

Through strong community partnerships, the new Science Center will become a distinct educational resource for developing talent for new and emerging roles in STEM fields and expanding economic opportunity for area residents.

Diversity and Inclusion (page 12): The Da Vinci Science Center plans to celebrate the rich diversity of Allentown and Lehigh Valley residents throughout the experiences at the new science center, establishing an environment where all people feel welcome. Priorities include 1) Championing equity through institutional policies and practices to help eliminate barriers to participation by historically underrepresented groups; 2) Increasing staff diversity through hiring, training, advancement, and retention practices with specific strategies to recruit Allentown residents; 3) Increasing staff cultural competencies through training that promotes inclusive practices; and 4) Increasing participation of historically underrepresented groups in DSC experiences through programs that promote access and experiences that reflect the diversity of our community.

Community Empowerment and Collaboration (page 12): As described in #3 below, the local community is actively engaged in the development of the new science center. Input from local youth, parents, educators, and community partners has shaped development of the new facility thus far. As the design process continues, the Science Center will be inviting local residents, artists, and scientists to participate in development of the exhibit experiences and design of the exterior Arts Walks on Lumber and Court Streets. All signage in the new facility will be in English and Spanish.

URBAN SYSTEMS

The new science center addresses specific goals for four of the five Urban Systems defined in the Allentown Vision 2030 Plan:

- **Economic Development**
- **Accessibility and Connectivity**
- **Services and Amenities**
- **Living Systems**

Economic Development (pages 34, 40-48, 56-57, 59, 61, and 72-73):

Increase local employment: The new downtown science center will create new jobs in the City of Allentown, with a priority on hiring local residents who will not need to leave the city for work. Using Implan models, the project will support 613 jobs during the two year construction period, and 487 jobs annually upon opening. New jobs at the science center are described on page 4 of this Tab.

Increase access to training and skill building: The new science center will be a hub for STEAM learning for Allentown residents, a regional center of excellence for STEAM education, and a STEM workforce development resource for northeastern Pennsylvania. As described earlier, many of the new science center's programs and exhibits will be specifically designed to serve residents of the immediate neighborhoods in an intensive, ongoing fashion. Programs will include digital literacy, a critical skill needed for the future identified in the Allentown 2030

Vision Plan. The Science Center currently offers a variety of digital access programs, from coding to robotics, video development, digital design and First LEGO League and will expand these at its new downtown facility to meet community needs.

Foster small business growth and entrepreneurship: The new downtown science center will be one of the most visited ticketed destinations in the City of Allentown, attracting more than 400,000 visitors annually bringing new business to Allentown restaurants and retail establishments 360 days per year. It will work with the City and community partners to help activate public places through programs and festivals to encourage visitors to frequent restaurants and retail downtown and in the surrounding neighborhoods. It will be working with the Allentown Arts Commission and the Cultural Coalition of Allentown to further activate public spaces west of 7th Street through extension of the Arts Walk along streets surrounding its facility and STEAM (STEM integrated with the arts) experiences on the plaza at the public entrance to the new facility. In addition, the Da Vinci Science Center is currently developing a procurement plan to source goods and services from Allentown firms. With support from the City, CADCA, and community partners, implementation at its Cedar Crest location will begin in 2022.

Connect to regional markets: The new science center will be a major new entertainment venue in downtown Allentown, expanding reasons to visit often to experience new exhibitions and programs. The Science Center will work closely with the City of Allentown and Discover Lehigh Valley to market Allentown's distinct entertainment, arts, and cultural assets to potential visitors within a 100 mile radius. See further explanation in question D4 later in this Tab.

In the Allentown Vision 2030 Plan, The Catalytic Action in the Economic Development Goals for Urban Systems is to invest in arts and cultural economic development, the focus of this project.

Accessibility and Connectivity (pages 124-125):

Welcome people to the City: The Science Center will work with the City of Allentown on wayfinding signage and branding to promote the City as a whole and provide directions to its distinct amenities, including the new downtown facility. It will also be working closely with the Allentown Parking Authority and the City of Allentown to establish and communicate parking options for science center visitors.

Services and Amenities (pages 134 – 138, 142, 150-151, and 154)

Support neighborhood identify and organizational capacity – Youth empowerment: Educational experiences at the new science center will be designed to support and empower youth and engage their parents and guardians. As described throughout this document, in-school and out-of-school time (after school, weekends, summer months) programs for students will build skills and confidence and expose them to career opportunities and lifelong pursuits heretofore

unfamiliar. Families spending time together at the science center will meet STEAM professionals and learn about local people and companies working in STEM sectors to improve our lives. Programs for families at school and community sites, similar to those offered today, will further engage parents and guardians in their children's education.

Foster inclusive and welcoming communities: As described earlier, the Science Center plans to activate the public spaces surrounding its new facility through STEAM experiences that reflect the rich diversity and culture of Allentown. These may include, but are not limited to, murals, interactive STEAM installations, and public programming. Local artists and scientists will be invited to develop these experiences. Similarly, the unique racial, ethnic, and cultural diversity of Allentown will be reflected in exhibit experiences through stories about individuals making contributions to STEAM fields locally and beyond and exhibit experiences such as "How do we see ourselves and each other?" which explore the subjective ways we see one another, race and identity, and the representation and ideals of bodies in pop culture.

In the Allentown Vision 2030 Plan, two of The Catalytic Actions in the Services and Amenities Goals for Urban Systems are Youth Development Through Pre-K and Community Centers. The Science Center currently offers a variety of programs at its current site, at local pre-school sites, and virtually for Pre-K students, teachers and parents to help students develop early STEAM and executive functioning skills. Research has shown that these skills developed at a young age will help prepare preschoolers to be successful in school studies and throughout life. Working closely with community partners, the Science Center will refine these offerings for young children to best meet community needs. Finally, as described earlier, the new science center will become a community hub for youth to engage in STEAM learning during out-of-school times.

Living Systems (pages 158-164, 167-168, 171, 173):

Increase Environmental Stewardship: Through its facility, exhibitions, and programs, the new science center will play an important role in educating Allentonians about how to improve community health and be good stewards of the environment. Sustainable features of the new science center project include roof-top solar photovoltaic panels that are expected to provide approximately 30 KW of power to the facility along with battery storage, a green roof, pavement with solar reflectance qualities, low-irrigation plant landscaping, and an HVAC system that is highly efficient, utilizes environmentally friendly refrigerants, and provides air filtration of "Merv 30", and low-flow plumbing fixtures. These will be featured and interpreted within the exhibits and programs, making the science center facility a teaching tool for environmental sustainability.

In addition, its major exhibition on My Body, developed in collaboration with a major health care provider, will educate visitors about the innovative thinking of health and medicine in caring for our well being as individuals and communities. Its major exhibition on the Lehigh River Watershed, developed in collaboration with the Wildlands Conservancy, will help visitors consider how they can play a role in protecting and preserving the environment and the impact of

their actions locally and globally.

2. Joint effort involving multiple municipalities: Allentown is the lead municipality engaged in the development of the project. Multiple regional entities are supporting its development including but not limited to the following:

Lehigh County: Funding

Discover Lehigh Valley: Marketing

Lehigh Valley Economic Development Corporation: Funding and positioning to advance regional goals

Lehigh Valley Planning Commission: Integration into *FutureLV: The Regional Plan* for the creation of public spaces in underserved areas and support for cultural and social programs (Policy 5.2)

Lehigh Valley Chamber of Commerce: Expansion of business opportunities and enhancement of quality of life for its members

Community Action Committee of the Lehigh Valley: support for a Neighborhood Partnership Program providing out-of-school time activities for youth in the surrounding neighborhoods.

3. Public Involvement in the Project: Prior to the submission of this application, the City of Allentown held public hearings on the project to solicit community input at two different times on November 21, 2019. The City furnished its citizens with advance notice of the hearing as required by 24 CFR 570.704 (a)(2)(i).

The Da Vinci Science Center has been engaging members of the local community and community-based organizations in-person and virtually since October 2019, prior to the official public announcement of the project. Through this process, the Science Center has received input and feedback on plans for the new facility and identified community resources to further engage in the planning process.

Among the organizations that have been represented in this process are Allentown City Council, Allentown Neighborhood Improvement Zone Development Corporation, Allentown Parent Network, Allentown School District, Community Action Committee of the Lehigh Valley, Community Action Development Corporation of Allentown, Cultural Coalition of Allentown, Promise Neighborhoods of the Lehigh Valley, Resurrection Life Church, Spanish Immersion Learning Center, Union Baptist Church, and Zero Youth Violence Allentown.

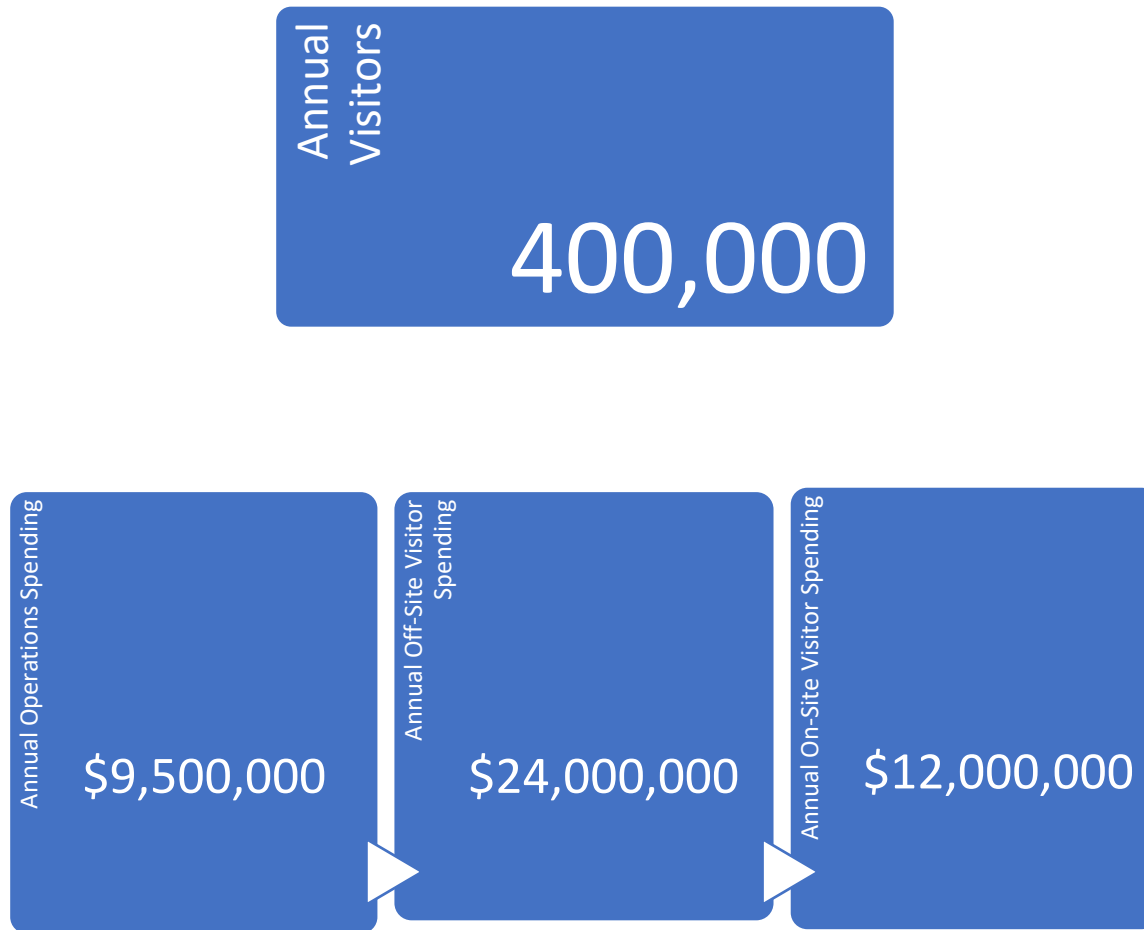
Topics that have been identified for further exploration include: 1) creating opportunities for local businesses and entrepreneurs; 2) partnering with community organizations to recruit, train and hire local residents for staff positions at the Science Center; 3) coordinating with regional mass transit providers for student and family access; 4) exploring how the Science Center might become a catalyst for the creation of a purpose-built community efforts underway; 5) expanding the Science Center’s existing partnership with the Allentown School District; 6) working with faith-based organizations to develop and implement youth programs during out-of-school time periods; 7) serving as a STEAM-based community center as part of a larger Neighborhood Partnership Program initiative supporting at-risk youth; 8) integrating the Science Center’s programs with those of local arts organizations; 9) devising ways in which potential barriers to neighborhood utilization of the Science Center, such as language and cost, can be addressed prior to opening; 10) ensuring that the diversity of local communities is fully reflected in the programs, staffing, and governance of the Science Center.

Community engagement will continue in an iterative fashion throughout the period leading up to the opening of the new Science Center facility in order to ensure that the project has provided broad-based opportunities for citizen involvement, utilized resources available within the community, and developed plans for the ongoing operation of the Science Center that are fully aligned with and reflective of its neighboring communities.

4. Tourism

The new downtown science center will be a significant driver of economic development in downtown Allentown. As described in Tab 3, the new facility is expected to attract 400,000 visitors annually in a stabilized year of operations, each of whom will stay for an average of 3 hours during their visit. This major new “day-out” family venue will activate the downtown shopping and entertainment district on weekends, holidays, and evenings throughout the year, and contribute greatly to the critical mass of activities available in downtown Allentown for both residents and visitors.

Key Economic and Fiscal Benefits



Economic Impacts and Job Creation

One
Time

Construction Impacts

	Initial	+	Multiplier	=	Total Impacts
Output (\$ MM)	\$56,400,000		\$26,800,000	=	\$83,200,000
Earnings (\$ MM)	\$24,500,000		\$9,200,000	=	\$33,700,000
Jobs (FTE)	407		206	=	613

Annual

Operations/Visitor Spending Impacts

	Initial	+	Multiplier	=	Total Impacts
Output (\$ MM)	\$22,300,000		\$13,500,000	=	\$33,800,000
Earnings (\$ MM)	\$11,500,000		\$4,400,000	=	\$15,900,000
Jobs (FTE)	382		105	=	487

TCC NMTC Questionnaire

Trust Community Capital, LLC (TCC) is a wholly-owned subsidiary of Trust Bank that is recognized as an industry leader in providing debt and equity capital in distressed communities. TCC is known for the broad spectrum of capital products available and for the impacts made in the communities we serve. We believe in supporting sustainable economic growth in low-to-moderate income communities in order to enhance the quality of life for the residents.

TCC strives to be a trusted business partner to our clients and communities. It has financed properties that provide tens of thousands of housing units and invested billions in debt and equity to these types of projects. TCC has also invested in over \$2 billion in New Markets Tax Credit (NMTC) transactions and has received \$578 million in NMTC allocation associated with 9 NMTC awards won by its subsidiary, SunTrust Community Development Enterprises, LLC (SunTrust CDE). These tools allow us to provide much needed capital to distressed communities and create economic impacts that otherwise would not have come to fruition.

TCC has relationships with third-party managed Community Development Entities (CDEs) and can work with you to identify CDEs with whom your project fits. CDEs select projects based on their mission, service area, demographics of the census tract, projected community impacts, need for subsidized financing and timing. This questionnaire will help TCC understand your project in greater depth, which will enable us to be of most help to you.

1. Project Description

Date Intake Form was Completed: Dec. 7 2021
Project Name: Da Vinci Science Center

Provide a Brief Narrative of the Project:
The Da Vinci Science Center's current facility is not large enough to accommodate demand, is not within easy walking distance of many of Allentown's low- and moderate-income neighborhoods, and has limited public transit access. Plans for the new 67,000 square foot (sf) facility include 30,000 sf of science exhibit space, a 9,579 net square-foot STEAM (Science, Technology, Engineering, Arts and Math) Learning Center, and numerous other features.
The goal is to secure \$30M New Markets Tax Credit allocation for the Da Vinci Science Center in Allentown, PA, with an anticipated closing date of March 1, 2022.
The 1.25 acre site in downtown Allentown is located at 18-28 North 8th St. and is immediately adjacent to numerous residential neighborhoods consisting predominantly of households of low and moderate incomes. The site was selected specifically because of its proximity to underserved audiences as well as its location within an area of the downtown that is experiencing significant investment and revitalization. The site's Census Tract (42077009700) has a 44% poverty rate, 29% of the area median family income, and a 20% unemployment rate. The site is "Severely Distressed" under the federal New Markets Tax Credit program, and also qualifies as a Neighborhood Improvement Zone, Opportunity Zone, HUB Zone and Food Desert.
According to an independent market study the project is expected to serve 485K individuals annually, with many attracted from the surrounding disadvantaged neighborhoods in programs for students and adults and community events. Highlights of community participation estimates for the completed project, with comparisons to its current Cedar Crest facility, include:
> 485,000 total annual participants, a 215% increase compared to participants in its Cedar Crest facility in 2019. The estimate includes 167,000 adults, 13% or 22,600 of which are estimated to be low-income persons (LIPs), and 137,000 children, of which 13% or 18,500 [this is 13%] are estimated to be LIPs.
> 76,000 annual school and group visitors, a 154% increase, 12%, or 8,800 are estimated to be LIPs.
> 53,000 participants in outreach programs, a 51% increase. Programs are offered in schools, after school and STEM summer learning programs; 24%, or 12,700 are estimated to be LIPs.
> 52,200 participants in educational programs, a 337% increase. Programs include Summer Camps, Science Clubs, After School Programs and STEAM programs, 20% of participants, or 10,400, are estimated to be LIPs.
> 1,000 teacher days of Professional Development training, a 83% increase; 12% or 124 of which are estimated to be LIPs.
The Science Center's current facility is not large enough to accommodate the growing demand for STEAM education in the region, and the facility at that location cannot be expanded. The site for the new facility was chosen for its location within the central business district of Allentown and its adjacency to many of the City's most impoverished neighborhoods.
At the new site, the Science Center will serve more youth, families, and schools, but more importantly it will dramatically expand access to rich STEAM learning experiences for students from low-income and minority families traditionally underrepresented in the sciences. It is estimated that the new Science Center will serve 4-5x as many individuals from low-income households than the Science Center serves today. This does not include outreach programs, many of which serve schools and community sites enrolling low-income students. The majority of outreach programs are currently supported by gifts and grants.
Staffing is estimated to be 49 full time and 28 FTE part time employees (77 FTEs) with annual payroll of \$4.9M.
NMTCs are needed to close a \$6MM funding gap caused by: 1) the project cannot support any debt paid from operational revenues; all potential outside sources of capital have been fully utilized but a gap still exists, 2) this project is experiencing higher than usual construction costs due to the special purpose nature of the facilities, and 3) the project must keep pricing affordable to disadvantaged individuals and businesses that can benefit from the center.
The project sponsor has site control and is gathering commitments for all elements of the capital stack.

Total square feet of the Improvements (Pre and Post Construction) 67,000

2. Project Location

Street Address: W. Hamilton Street and 18 North 8th Street
City, State, Zip: Allentown, PA 18101
County: Lehigh
Census Tract(s): 42077009700

Check all that apply to the project location:

- Checked: Poverty rate greater than 30%
Checked: Median family income less than 60% of statewide/ metropolitan area median family income
Unchecked: Unemployment rate at least 1.5 times the national average (7.9%)
Unchecked: Non-Metropolitan County
Unchecked: Targeted Populations
Unchecked: Poverty rate greater than 25%
Checked: Median family income less than 70% of statewide/ metropolitan area median family income
Checked: Unemployment rate at least 1.25 times the national average (7.9%)
Unchecked: U.S. Small Business Administration (SBA) designated HUB Zone (project/business must qualify and obtain HubZone certification by the SBA)
Unchecked: Brownfield site
Unchecked: Encompassed by a HOPE VI redevelopment plan
Unchecked: Federal Native Area (Native American, Alaska Native, Hawaiian Homeland or Tribal Redevelopment Area)
Unchecked: Designated as distressed by the Appalachian Regional Commission or Delta Regional Authority
Unchecked: Designated as a Colonias Area by the U.S. Department of Housing and Urban Development
Unchecked: Federally designated medically underserved area (to extent that the business/project will support health-related services)
Checked: State/local economic zones, state enterprise zone programs, or other

similar state/local programs targeted towards particularly economically distressed communities

- Federal Emergency Management Agency issued a "major disaster declaration" and made a determination that such county is eligible for both "individual and public assistance."
- Certified by the Department of Commerce as eligible for assistance under the Trade Adjustment Assistance to Firms Program
- Identified as a Food Desert under the Healthy Foods Financing Initiative (to the extent the business/project will increase access to healthy
- Promise Zone

3. Project Sponsor

Add Rows

Describe the sponsor (parent organization) and any other major parties involved in the project:

The Da Vinci Discovery Center of Science and Technology, Inc. is a 501(c)(3) corporation that serves the greater Lehigh Valley metropolitan area, providing both informal and formal STEM (Science Technology, Engineering and Math) and STEAM (STEM + the Arts) education programs at its main facility in west Allentown and through the delivery of educational outreach programs. The Da Vinci Science Center's roots were planted in 1992 when Lehigh University in Bethlehem formed the Science Model Area Resource Team (SMART) to provide interactive science experiences for local students. The SMART Center left Lehigh to become an independent non-profit in 1999. Its current operation engages more than 150,000 participants annually, with a total annual budget of approximately \$3.9 million. The project will be developed by Da Vinci Science City, LLC, a wholly owned subsidiary of which the Da Vinci Discovery Center of Science and Technology, Inc. is the sole member. Please see the attached Corporate Structure Diagram for more information.

The Da Vinci Science Center currently operates a science center facility for the general public on the campus of Cedar Crest College in west Allentown. The Science Center has the experience and capacity to develop a major construction project of this type and scale. The Science Center developed and constructed its current facility, which opened in 2005. The development team is comprised primarily of small businesses and individuals:

Lin Erickson, Executive Director and CEO of the Da Vinci Science Center served as its Executive Director during the development phase of the existing facility and has extensive experience in major capital project development and fundraising.

MKSD based in Allentown has been selected as project architect. MKSD has extensive experience in the design of major cultural and education facilities in the Lehigh Valley. Silvia Hoffman, Principal with MKSD, is leading the design team for the project. MKSD has assembled an engineering team to support their work which includes **HB Engineers** (MEP), **Barry Isett & Associates** (Structural, Civil, Landscape), and **Geo-Technology Associates** (Geotechnical).

Alvin H. Butz is a major construction management firm headquartered in downtown Allentown. The Butz family has managed the organization for six generations and pioneered the construction management concept in the Lehigh Valley in 1973. They provide exceptional, comprehensive construction management services, led by strong values and complete customer satisfaction. The firm possesses significant experience in the construction of healthcare facilities, colleges/universities, corporate office buildings, hi-tech manufacturing facilities, sports and entertainment venues, government buildings, K-12 schools and retail buildings. The Da Vinci Science Center project will be managed by Butz under the personal direction of its President and CEO, Greg Butz. Among the projects recently managed by Butz is the highly successful PPL Center area in downtown Allentown. The Da Vinci Science Center site is directly adjacent to the PPL Center arena.

Thinc Design, based in New York City has completed a concept design for the exhibits. Thinc is an international exhibit-design firm that has recently complete major projects including the National 9-11 Museum, The Empire State Building Observation Deck, and the Seattle Aquarium.

Grenzebach Glier and Associates (GG+A), served as fundraising counsel to the project, advising on the private-fundraising component of the capital campaign. GG+A conducted an exhaustive feasibility analysis during the fall of 2019, conducting dozens of in-person interviews and assessing the Science Center's capacity to raise private funds. \$13.6 million in private funding has been secured as of November 30, 2021, with an additional \$3.2 million in verbal commitments.

H2R Market Research, a Springfield, MO-based company with extensive experience in consumer-based market research and analysis for the attractions industry has conducted extensive market research on consumer interest in the project and prepared an attendance-potential analysis to support the business plan for the new science center.

Roto Group, a multidisciplinary design-build exhibit firm, has been hired to produce a detailed design of the Thinc exhibit concept plan and to fabricate and install the entire exhibit program. Roto has a depth of experience in the design and fabrication of interactive exhibits, living collections exhibits, and large-scale multimedia installations. They have produced award-winning exhibits for museums throughout the world.

PFM Financial Advisors is serving as the Science Center's financial counsel and prepared a financing plan that addresses the capitalization and cash-flow requirements of the project. PFM prepared the initial financing for a portion of the \$20 million in Gaming Economic Development Tourism Fund that has been committed to the project by the Commonwealth of Pennsylvania. This initial financing supported architecture, engineering, and exhibit-design work during the second half of 2020 and early 2021.

CBO Financial is a company specializing in providing gap financing such as New Markets Tax Credits for projects that revitalize distressed communities. CBO Financial's target market includes developers of relatively large scale (\$7M to \$150M) projects with significant positive community impact, and nonprofits that operate in low-income communities in the U.S. and its territories.

Gross McGinley, an Allentown-based law firm, serves as Da Vinci Science Center's general counsel, providing a range of legal services to the project.

Saul Ewing Arnstein and Lehr serves as bond counsel, working with the Da Vinci Science Center and PFM to support the multiple financial transactions required to support the capital requirements of the project.

Joseph Moore, Principal, EMS Consulting in Philadelphia, serves as the Chief Project Consultant. Mr. Moore's experience includes more than 20 years of service in executive roles with the Franklin Institute Science Museum and the Philadelphia Zoo. Mr. Moore has overseen more than \$300 million in capital projects at those two institutions and currently works with cultural and educational organizations throughout the United States on strategic planning and project development.

Does the project have the board approval(s) necessary for it to utilize NMTC financing as a funding source? Yes

Has the sponsor utilized NMTC financing in the past? If so, please identify and provide the NMTC equity investor? No

Please identify the following external team members for this project. If a team function is not applicable to this project, please indicate so using "N/A". If a team member has not yet been identified or selected, please indicate so using "TBD" (To Be Determined).

Other

If Other: Project Sponsor Representatives: Maureen Michael, CFO, maureen@davincisciencecenter.org, (610) 662-4340, Lin Erickson,CEO,

Accountant: Buckno Lisicky & Co., Jeffrey E. Dobeck, CPA & Shareholder, jdobeck@blco-cpa.com, (610) 821-8580, x1400

NMTC Consultant: James Badgley, CBO Financial jbadgley@cbofinancial.com, 562.343.7637

NMTC Attorney: TBD

4. QALICB

Owner/QALICB name: Da Vinci Science City, LLC

What type of business is the QALICB? Operating Business If Other:

What type of organization is the QALICB? Corporation If Other: 501(C)3

Do more than 50% of the borrowing entities gross income come from the development (including construction of new facilities and rehabilitation/enhancement of existing facilities), management, or leasing of real estate? No

5. Sources and Uses

Add Rows

Summarize the sources and uses and include expected closing dates:

Sources of Financing	Amount	Uses of Financing	Amount
Bond issue - Truist (term sheet issued)	\$ 20,000,000	Project Budget	59,100,000
Private donations paid thru 2/2024 (bridged)	10,200,000	Misc/Contingency	3,800,000
New Markets Tax Credits (based on \$30M NMTC)	9,009,000	Financing Costs	3,359,000
PA RACP (2 rounds)	9,000,000		

Private donations - paid after 2/2024 (bridged)	8,600,000
HUD - City of Allentown Section 108	5,600,000
GEDTF - State Appropriation (2020 & 2021 pmts)	4,000,000
US Community Funded Project	3,000,000
Local County and City	200,000
Total	69,609,000

NMTC FEES:	
CDE Fees 5% at close +50 bps/yr	2,550,000
Placement Fee- 1% of \$30M	300,000
Legal	500,000
Total	69,609,000

Are any of the non-NMTC sources (e.g. equity, capital contributions, land, etc.) encumbered by liens/pledges that will require third-party approvals (e.g. HRSA consent, subordination, etc.)? No

Dollar amount of allocation being requested: \$ 30.00 (millions)

Have any CDEs committed allocation to the project, either formally or informally? If so, identify the CDE(s) and the amount(s) of allocation. No

If yes:

Please Attach the Following:

- Detailed sources and uses, construction budget if applicable
- Financial statements (audited, if applicable) for the past three (3) fiscal periods and a current interim financial statement for the operating company
- Appraisal of the property/collateral
- Detailed annual ten year pro forma
- Term sheets, commitment letters, grant agreements, and/or documents evidencing source of funds.

6. Community Impacts (these responses may be memorialized in a Community Benefits Agreement between the QALICB and CDE(s)).

Job Creation

Predevelopment and/or Construction FTE Jobs created:	407.0
Permanent FTE Jobs created:	38.0
Permanent FTE Jobs maintained:	39.4

The new downtown science center will employ an estimated 49 full-time and 28 FTE part-time employees (77 FTE positions). Nearly half of these (38 FTEs) will be new positions. These positions do not include an additional 30 new jobs to be created by the on-site catering and retail operations. The table that follows provides a projection of full-time and part-time positions created and retained by the science center as a result of the project. The 2020 pre-Covid staffing levels reflect the Da Vinci Science Center's current operation. Positions will be added incrementally beginning in 2021 to support the expansion effort, with a major hiring effort during the lead-up to the public opening. The 2023 FTE estimates are expected to continue indefinitely to support the expanded operation.

Projected Staffing Schedule
Da Vinci Science Center Downtown Allentown
Assumes Public Opening by 03/31/2024

Year	2020	2021	2022	2023
FT Positions	25	28	35	49
PT Positions (FTE)	14.4	14.4	14.4	28.4
Total FTE Positions	39.4	42.4	47.4	77.4

*** Please see the attachment "Economic Impacts and Job Creation.pdf" for additional information.

Complete the following matrix for Permanent FTE Jobs (both maintained and new). Broad categories such as administrative, management/executive, custodial, teachers, etc. are sufficient:

*** Please see attached Staffing Roster

Job Title	Employer(QALICB, Sponsor, Tenant)	Number of Employees	Number of Perm Jobs FTEs	Number of FTE Jobs	Avg. Annual Wage	New Job	Maintained Job
Executive	Tenant	2.0	2	2.0	\$ 167,500	1	1.0
Administrative	Tenant	7.0	7	7.0	\$ 65,000	3	4.0
Philanthropy	Tenant	5.0	4	4.3	\$ 73,600	0	4.0
Marketing	Tenant	11.0	10	10.2	\$ 50,471	6	4.0
Education/Exhibits	Tenant	31.0	25	25.1	\$ 45,176	11	14.0
Visitor Services	Tenant	14.0	8	7.7	\$ 35,412	1	6.4
Facilities	Tenant	10.0	9	9.0	\$ 42,866	6	3.0
Outreach Education	Tenant	14.0	12	12.1	\$ 46,939	6	6.0
Retail Sales	Other	8.2	5	5.1	\$ 28,307	5	
Food Service	Other	14.9	10	9.9	\$ 29,539	10	
Event Catering	Other	14.5	8	8.3	\$ 27,878	8	
Auxiliary Programs	Other	7.9	5	4.9	\$ 34,519	5	
Security Associates	Other	3.5	2	1.8	\$ 28,000	2	
Construction FTE Job	Other	407.0	0	407.0	\$ 50,164		407
Predevelopment	Other	17.0	0	11.0	\$ 244,436		11
Total		567.0	107	525.4	\$ 64,653.85	483	42.4

Retail
Food Svc
Catering
Auxiliary
Security

1 "Predevelopment or Construction FTE Job" means a job that is under 24 months in duration and results from the development of the Project or the financing of the loan and one involving a 35-hour workweek.

2 "Permanent FTE Job" means a job that is at least 24 months in duration and involves at least a 35-hour workweek.

3 "Community Benefits Agreement" refers to a legal contract between a borrower and a CDE that details responsibilities for tracking community impacts, including job numbers and the provision of community services

Quality of Jobs

Describe opportunities to build wealth, receive living wages, and employment benefits (e.g. health insurance and retirement benefits) for Low-Income Persons. Specify the employer sponsored employee benefits:

Add Rows

The new positions (38 FTEs) will pay an average wage of \$22.75 just below the estimated living wage for one person in the Allentown-Bethlehem-Easton area. The Science Center's current benefit package for full-time employees includes the following: 3 paid holidays, 13 additional personal/holidays per year, 10 vacation days per year, 5 sick days per year, health insurance paid in full for the employee, access to tele-medicine services at no charge to the employee, life insurance, and short and long-term disability insurance. Other benefits include participation in a tax-efficient Flexible Spending Account for unreimbursed health care costs, participation in a tax-deferred 403(b) Retirement Plan (Da Vinci does not currently provide employee match), 10 days paid parental leave, and an employee assistance program providing access to phone counseling. The Science Center expects to continue this benefit package at the new downtown site.

What percentage of Permanent FTE Jobs will receive benefits? 55%
Will the Construction Jobs pay Davis-Bacon wages or prevailing wages? Prevailing If Other:

Jobs Accessible to Low-Income Persons or Residents of Low-Income Communities

Describe strategies for targeting jobs to Low-Income Persons and minority persons: Add Rows

The Science Center will establish a target goal of at least thirty percent of new positions, full and part-time, being filled by Allentown residents. It will partner closely with the Workforce Board Lehigh Valley to recruit, identify, and train Allentown residents for new jobs at the downtown site. Allentown residents will be provided advance notice of new positions, and for those qualified, preferred access for interviews. In the months prior to opening, skills training programs will be offered for residents to meet the requirements of the new positions created. Finally, the Science Center is committed to supporting the development and growth of its employees in an inclusive environment. Its Operating Plan calls for celebrating the rich diversity of the local community through recruitment of diverse staff, and training, advancement, and retention practices which create an environment where all feel welcome.

The Science Center will also offer a STEAM Career Ladder Program for students beginning in middle school and continuing as they get older that will result over time in additional residents of the low-income community in the immediate vicinity of the project gaining the skills and credentials required to work at the Da Vinci Science Center and in high demand STEM jobs in the community. The STEAM Career Ladder Program is envisioned as a system of graduated opportunities through which young people advance as they interact with the public and help visitors feel welcome and understand the science behind the exhibits and demonstrations. Through hands-on training, shadowing, and on-the-job experiences, young people will acquire communication skills, knowledge of science and the scientific process, experience with inquiry and project design, and exposure to careers in STEM and STEAM teaching. As they assume increasing levels of responsibility, pay, and skill, they will prepare for future educational and career opportunities, including positions at the new science center or in the community.

Describe opportunities for training and advancement: Add Rows

The requested NMTC allocation will support construction of a major new science center and STEAM (Science, Technology, Engineering, Arts and Math) learning facility in downtown Allentown. The new facility is being constructed to meet surging demand for STEAM education and to help build the pipeline of STEM workers to meet the growing demand by local employers. The Lehigh Valley region is among the top five fastest growing economies in the Northeast and among the top five fastest growing regions with fewer than one million people in the U.S. The Lehigh Valley Economic Development Corporation has targeted five industries offering the greatest opportunity for growth, all requiring strong STEM backgrounds. The top consideration for employers when considering expansion or relocation to the Lehigh Valley is the availability of a skilled workforce. It is imperative that the region invest in the development of the future workforce with a high priority on preparing those traditionally underrepresented for new family sustaining jobs. The new science center will play a critical role in building a regional STEM economy.

The first level of the new facility, to be called the Da Vinci STEAM Learning Center, will offer classes, workshops and other educational activities for preK - high school youth and their families. The Da Vinci STEAM Learning Center will feature specialized workshop and laboratory spaces that will provide local youth with the opportunity to develop STEAM skills, as well as 21st century skills of teamwork, collaboration, and problem solving, in order to prepare for jobs upon graduation or further studies. It is anticipated that 200,000 students will receive education and training in STEAM annually. The greatest impact will be on the nearly 12,000 children that live within one mile's walking distance of the new site--48% of these children live below the poverty level. In addition, the new science center will be located within one mile's walking distance of 5 schools and 43% of the students enrolled in the Allentown School District, the 3rd largest in the state, with 17,000 students, 82.5% of the student body coming from families classified as economically disadvantaged, and 17% who speak English as a second language. The Science Center is partnering with the school district to design in-school and out-of-school-time programs to expand access to STEAM resources for students at all grade levels. The central location of the new science center in the district will set the district apart from its peers, providing access to immersive exhibit experiences, fully outfitted labs and workshop spaces, and the opportunity to meet STEAM professionals and learn about STEM careers.

See the attached Educational Impact report.

What percentage of the Permanent FTE Jobs will be filled by residents of Low-Income Communities and/or Low-Income Persons? 25%

What percentage of Construction Jobs will be filled by residents of Low-Income Communities and/or Low-Income Persons? 45%

Education

If applicable, describe how the project/business is going to support education in Low-Income Communities. Please quantify the number of Low-Income Community members that will be served.

Today Da Vinci Science Center serves the greater Lehigh Valley PA metropolitan area, providing both informal and formal STEM (Science Technology, Engineering and Math) and STEAM (STEM + the Arts) education programs at its main facility in west Allentown and through the delivery of educational outreach programs. The Science Center's professional development programs train teachers in inquiry, engineering design, STEM literacy, and the integration of arts and technology; and its workforce initiatives connect students with practicing STEM professionals. The Da Vinci Science Center has been in operation for more than 25 years. Its current facility engages more than 150,000 participants annually, with a total annual budget of approximately \$3.9 million. The new facility in downtown Allentown will be developed by Da Vinci Science City, LLC, a wholly owned subsidiary of which the Da Vinci Discovery Center of Science and Technology, Inc. is the sole member.

The new science center will be a distinct educational resource for developing talent for new and emerging roles in STEM fields and expanding economic opportunities for residents of the Lehigh Valley. Envisioned as a unique collaboration between the Da Vinci Science Center, the Workforce Board Lehigh Valley, area industry, and area school districts, the new science center will showcase regional industry, providing compelling exhibit experiences to capture visitors' interest in STEM careers combined with education programs to build skills, achieve mastery, and prepare for careers either immediately upon graduation from high school or following further studies.

The Science Center has specifically targeted the one-mile radius surrounding the new site as its target service area. The population of the target service area is 52,802 individuals, 72.7% of whom live in low to moderate income households and 33% (15,822) of whom live below the poverty level. In these neighborhoods, there are 11,782 children ages 5-17, with 5,613 (48%) living below the poverty level. 9,053 of the adults 25+ in the surrounding neighborhoods do not have a high school degree. For Allentown youth and families in the surrounding neighborhoods and beyond, a new science center in their backyard will be a gamechanger.

According to an independent market study the project is expected to serve 485K individuals annually, with many attracted from the surrounding disadvantaged neighborhoods in programs for students and adults and community events.

Overall, the Science Center projects that 73,000 participants (57,000 individuals) from the greater Lehigh Valley region living below the poverty level will benefit from educational exhibit experiences offered by the new science center. Participation refers to the number of adult or student days of programming; enrollment tracks individuals. An estimated 23,000 participants (7,366 individuals) living below the poverty level will benefit from ongoing access to rich STEAM educational programs.

Highlights of community participation estimates for the completed project, with comparisons to its current Cedar Crest facility, include:

- > 485,000 total annual participants, a 215% increase compared to participants in its Cedar Crest facility in 2019. The estimate includes 167,000 adults, 13% or 22,600 of which are estimated to be lo-income persons (LIPs), and 137,000 children, of which 13% or 18,500 [this is 13%] are estimated to be LIPs.
> 76,000 annual school and group visitors, a 154% increase, 12%, or 8,800 are estimated to be LIPs.
> 53,000 participants in outreach programs, a 51% increase. Programs are offered in schools, after school and STEM summer learning programs; 24%, or 12,700 are estimated to be LIPs.
> 52,200 participants in educational programs, a 337% increase. Programs include Summer Camps, Science Clubs, After School Programs and STEAM programs, 20% of participants, or 10,400, are estimated to be LIPs.
> 1,000 teacher days of Professional Development training, a 83% increase; 12% or 124 of which are estimated to be LIPs.

At the new site, the Science Center will serve more youth, families, and schools, but more importantly it will dramatically expand access to rich STEAM learning experiences for students from low-income and minority families traditionally underrepresented in the sciences. It is estimated that the new Science Center will serve 4-5x as many individuals from low-income households than the Science Center serves today. This does not include outreach programs, many of which serve schools and community sites enrolling low-income students. The majority of outreach programs are currently supported by gifts and grants.

Two barriers to participation by low-income students in science center experiences are cost and transportation. With support from private donors, the Science Center will ensure that all families can visit regardless of their ability to pay. Also, Allentown School District field trips over the next ten years will be available at no cost.

The Science Center will offer a variety of exhibit experiences and hands-on-workshops specifically targeting students in the surrounding neighborhoods. Educational programs will be offered for PreK, elementary, middle, and high-school students to reinforce and complement in-school STEAM studies and encourage students to pursue STEM careers and further education in high growth industry clusters. These programs will build upon and expand established programs for which the Da Vinci Science Center has become known, including but not limited to school workshops, summer camp, school's out day camps, science clubs, inventor's lab, and more. In addition, the Science Center is partnering with the Allentown School District, the third largest district in the state - 17,000 students with 82.5% from families classified as economically disadvantaged, - to design in-school and out-of-school-time programs and outfit the labs to expand access to rich STEAM learning experiences for students at all grade levels. Also, the new STEAM Career Ladder Program will provide a series of graduated opportunities for students beginning in middle school and continuing as they get older to prepare them for jobs or further studies upon high school graduation. Distinct features of this program include year-round workshops, summer volunteer experiences (with coaching) at the Science Center, and paid internship experiences with coaching at the new science center and in local companies. Through strong school and community partnerships, the new Da Vinci Science Center at the PPL Pavilion will demonstrate a new standard for how science centers can be woven into the fabric of their local economies.

In terms of fundraising support for low-income youth, families and schools, the Science Center typically has raised \$415K annually to provide free educational programs and access to Science Center experiences for those groups. Once the new downtown Science Center facility is in operation, we expect to be able to add an additional \$100K each year to expand programs and access for low-income populations.

The attached document details the projected number of individuals living below the poverty level that will participate in STEAM learning experiences based at the new site and outreach programs at school and community sties. Projections are provided for youth and families in the greater Lehigh Valley region, Allentown, and within a one-mile radius of the site.

Healthcare

If applicable, describe how the project/business is going to provide healthcare services in LICs. Please quantify the number of Low-Income Community members that will be served.

N/A

Financing Minority Business

Describe whether the QALICB/business owners, developers, project sponsors, contractors, subcontractors, or vendors are Minority-Owned or Minority-Controlled:

Add Rows

N/A

*"Minority-owned or Minority-controlled" Minority-owned for-profit entity: A for-profit entity that is not a MDI and that has at least 51 percent of its equity ownership interest being owned by individuals who identify themselves as Black American, Asian American, Hispanic American, or Native American. Minority-controlled not-for-profit entity: A not-for-profit entity with at least 51 percent of its Board of Directors comprised of individuals who identify themselves as Black American, Asian American, Hispanic American, or Native American. Minority Depository Institution (MDIs): An entity that is designated by the FDIC as a Minority Depository Institution.

Flexible Lease Rates

Describe the efforts the project/business will make to provide tenant-businesses, specifically locally-owned businesses, minority-owned or minority-controlled businesses and non-profit organizations, rent reductions or the opportunity to be able to purchase their properties:

Add Rows

NA

Is there an explicit set-aside for such tenants?

Describe the strategies for targeting Minority-owned or Minority-controlled businesses:

Add Rows

The new downtown science center will be one of the most visited ticketed destinations in the City of Allentown, attracting 485,000 visitors annually bringing new business to Allentown restaurants and retail establishments 360 days per year. It will work with the City and community partners to help activate public places through programs and festivals to encourage visitors to frequent minority-owned restaurants and retail downtown and in the surrounding neighborhoods.

In early 2022, the Science Center will develop a procurement plan to source goods and services from Allentown firms. The science center will work closely with the City of Allentown, the Community Action Development Corporation of Allentown (CADCA), and community partners to begin implementation of this plan in mid-2022

Housing Units

Describe the affordable housing component, if any, of the project:

No

If Yes:

Describe environmental remediation, LEED certification, and/or renewable energy. If applicable, describe what green elements or features will be included (e.g. green roof, low water use fixtures and landscaping, use of solar or geothermal heating/cooling, energy efficient building materials, etc.):

Add Rows

Environmental sustainability is a major component of the project, and the design team meets on a quarterly basis to review sustainable features being designed into the facility. Current features include roof-top solar photovoltaic panels that are expected to provide approximately 30 KW of power to the facility along with battery storage; a green roof; pavement with solar reflectance qualities; low-irrigation plant landscaping; an HVAC system that is high efficiency, utilizes environmentally friendly refrigerants, and provides air filtration of "Merv 30"; and low-flow plumbing fixtures. An additional feature currently under review is a gray-water recovery system. Sustainable features of the facility will be featured and interpreted within exhibits, making the Science Center a true teaching tool for environmental sustainability;

Healthy Food Financing

Describe whether the project will increase access to healthy foods (including grocery stores and farmer's markets). Note whether the project is in a "Food Desert" or an area otherwise lacking access to fresh and healthy food:

Add Rows

This is not a Healthy Food project.

Other Community Impacts

Describe any other significant community impacts that are not described above:

Add Rows

The Da Vinci Science Center currently operates a science center facility for the general public on the campus of Cedar Crest College in west Allentown. The Da Vinci Science Center's results are both concrete and intangible, as well as immediate and lasting. They form the foundation upon which the center develops it STEAM programs to inspire curiosity, spark interest in STEM and STEM careers, increase knowledge and skills, and help prepare a 21st century workforce.

Key economic facts for the completed project include:

- > \$9,500,000 in annual operations spending
- > \$24,000,000 in annual off-site spending
- > \$12,000,000 in annual on-site visitor spending

Since 2005, DSC has had more than 1.6 million visitors and participants. Prior to the onset of the Covid pandemic, 2019 was a record year. Major highlights included:

- > 154,275 total visitors
- > 24,000 annual school group visitors
- > 26,000 participants in outreach programs

> 30,000 participants in outreach programs

> 548 annual days of teacher training

> 3 new US patents earned by students in the Young Inventors program, bringing the total to 7

> 6,766 students awarded scholarships through the Science Inquiry Fund

> 350 women and girls attended the Women in Science & Engineering Forum

> 78 STEM Professionals connected to 1,517 students through Career Connection Field Trip days For the completed, stabilized project community participation is estimated as follows:

Projections for the new science center include the following:

> 485,000 total annual participants, a 215% increase compared to participants in its Cedar Crest facility in 2019. The estimate includes 167,000 adults, 13% or 22,600 of which are estimated to be low-income persons (LIPs), and 137,000 children, of which 13% or 18,500 [this is 13%] are estimated to be LIPs.

> 76,000 annual school and group visitors, a 154% increase, 12%, or 8,800 are estimated to be LIPs.

> 53,000 participants in outreach programs, a 51% increase. Programs are offered in schools, after school and STEM summer learning programs; 24%, or 12,700 are estimated to be LIPs.

> 52,200 participants in educational programs, a 337% increase. Programs include Summer Camps, Science Clubs, After School Programs and STEAM programs, 20% of participants, or 10,400, are estimated to be LIPs.

> 1,000 teacher days of Professional Development training, a 83% increase; 12% or 124 of which are estimated to be LIPs.

The Science Center's current facility is not large enough to accommodate the growing demand for STEAM education in the region, and the facility at that location cannot be expanded. The site for the new facility was chosen for its location within the central business district of Allentown and its adjacency to many of the City's most impoverished neighborhoods.

The new Da Vinci Science Center facility in downtown Allentown will be both an educational asset and a significant driver of economic development in downtown Allentown. As an economic development driver, the enlarged facility, with 30,000 SF of exhibitions, is expected to attract 485,000 visitors annually in a stabilized year of operations, based on recently conducted, third party market research. Consumer feedback that has been collected about the project indicates that, on average, visitors will stay for 3 hours during each visit. This major new "day-out" family venue, located adjacent to the PPL Center arena, will anchor an anticipated second wave of investment within Allentown's Neighborhood Improvement District over the next three to four years. It will activate the downtown shopping and entertainment district on weekends, holidays, and evenings throughout the year, and will contribute greatly to the critical mass of activities available in downtown Allentown for both residents and visitors.

As a major educational asset, the new science center will provide STEAM educational programs readily accessible to Allentown's low and moderate-income families. STEAM programs will be designed to encourage residents of the immediate community to engage in Science, Technology, Engineering and Math, to explore the Arts, and to unleash their own curiosity and creativity. These programs will be offered at little or no cost to low- and moderate-income participants and will be heavily promoted throughout the disadvantaged communities in the immediate vicinity of the Science Center.

The Science Center has identified the one-mile radius immediately adjacent to the new facility site as a target service area. The population of the target service area is 52,529 individuals, 72.7% of whom live in LMI households and 33% (15,822) who are living in poverty. This equates to 12,389 LMI and an estimated LMI population within one mile's walking distance of 38,189 individuals. The service area comprises approximately 43% of the Allentown population and 54% of its LMI households. All the census tracts within the one-mile service area contain LMI populations in excess of 51%, and many census tracts contiguous to the service area are also comprised of majority-LMI populations. Detailed information about educational impact on individuals **living below the poverty level** was provided earlier on this questionnaire and may be found on the attached Educational Impact Report.

The Science Center estimates conservatively that it will receive approximately 30,400 visits annually from residents within the target service area, including 22,101 visits from LMI individuals. As a result of planned efforts to target the service area with specially designed programs and marketing efforts, it is anticipated that these residents will visit the new science center at a rate that is seven times greater than other residents of the "core" Lehigh Valley market area.

The Da Vinci Science Center is experienced and highly regarded for its programmatic offerings that encourage long-term community engagement. For example, the Science Center currently hosts a variety of Science Clubs after school and on weekends that range from 8 weeks in length to the full school year. Students work alongside Da Vinci Science Center educators and scientists, technicians, and engineers from local companies to explore manufacturing, robotics, the intersection of STEM and the arts, and more. Current offerings include the STEAM Club, Mack Manufacturing School, Young Inventors Prom, STEM Girls!, and FIRST® LEGO® League. Perhaps best known is the Da Vinci Science Center's Young Inventor's Program which offers children in grades 5 through 8 an opportunity to explore the invention process with activities and presentations by professional inventors. The program has already resulted in 5 youth participants receiving 9 patents from the United States Patent and Trademark Office.

The Science Center is currently in discussion with Community Action Development Corporation of Allentown (CADCA) to participate in a CADCA-led Neighborhood Partnership Program in which the new Science Center would serve as a STEAM Community Center, offering youth an after-school place to engage in science learning, and an alternative to gang activity that is very active in the area. The Da Vinci Science Center also has established the Linnay Fowler STEAM Scholarship Fund that provides scholarships to both individuals and organizations in need, and provides students from low- and moderate-income households opportunities to explore science, technology, engineering, and mathematics (STEM) subjects and careers.

Located within one-mile of the new science center are 5 public schools operated by the School District of the City of Allentown, and 6 other private and charter schools. Allentown School District board members and Deputy Superintendent Jennifer Ramos are in active discussion with the Da Vinci Science Center regarding ways in which the school district students within walking distance of the facility can utilize the new science center intensively for both in-school and after-school STEAM learning.

While the one-mile target area that is within a 20-minute walk of the new science center is the proposed service area, the Science Center's efforts to encourage attendance to the downtown facility will extend throughout the entire City of Allentown and will accrue to the benefit all its 122,000 residents, 58.4% of whom reside within LMI households. Placing the new science center facility within walking distance of some of the City's most distressed neighborhoods and offering programs to local families, subsidized by external fundraising, will remove two of the greatest barriers (cost and accessibility) that science centers face in serving residents of LMI households.

Additionally, the Science Center is working with local community groups to shape the development of the new facility, engaging them in the design of the building and its programs, and ensuring that, when opened, the new science center is embraced and utilized extensively by the local community.

A recent study that explored the perceptions of science centers by low-income and minority groups noted that "inclusive informal science learning is not simple, but is a key issue for science education". By working with the local community and taking a "designed for us" approach to this new facility, the low- and moderate- income, predominantly minority communities in the service area immediately surrounding the Science Center, will become regular users. These families will see the facility as "their science center", and be the primary beneficiaries of this major STEAM learning resource.

7. Community Accountability and Involvement

Describe engagement and consultation with the surrounding community:

The Da Vinci Science Center engaged in a multi-year strategic planning process in 2013-14 which led to the decision by the Board of Trustees to “take the strategic actions necessary to position itself for a bold expansion that will enable it to present world-class exhibits and learning experiences for the nearly one million people living in its surrounding area.” The process included extensive data gathering on visitor demographics and market penetration; a benchmarking study of other science centers in similar size markets; and meetings, surveys, and focus groups with area residents, members, educators, and business and community leaders. The downtown Allentown site was selected for its location within the central business district and its adjacency to a dense concentration of low-moderate income residents who could benefit the most from access to a world-class educational resource. The need and desire for the project at this location was verified through the community engagement described earlier.

Prior to the onset of Covid 19 in early 2020, the Science Center hosted numerous in-person meetings and events involving community organizations. During the pandemic, community discussions continued virtually. Participants included neighborhood residents, business owners, students, teachers, scientists, artists, and religious and community leaders. To date, the Science Center has participated in 17 meetings and events involving community organizations. Through this process, the Science Center has identified community resources to engage in the planning process for the new facility and received input and feedback regarding the initial plans for the new facility. Future citizen engagement plans include hiring a Community Engagement Liaison to expand outreach to families residing in surrounding neighborhoods.

Topics that were identified by community members for further exploration include: 1) creating opportunities for local businesses and entrepreneurs; 2) partnering with community organizations to recruit, train and hire local residents for staff positions at the science center; 3) coordinating with regional mass transit providers for student and family access; 4) exploring how the science center might become a catalyst for the creation of a purpose-built community efforts underway; 5) expanding the science center’s existing partnership with the Allentown School District; 6) working with faith-based organizations to develop and implement youth programs during out-of-school time periods; 7) serving as a STEAM-based community center as part of a larger Neighborhood Partnership Program initiative supporting at-risk youth; 8) integrating the science center’s programs with those of local arts organizations; 9) devising ways in which potential barriers to neighborhood utilization of the science center, such as language and cost, can be addressed prior to opening; 10) ensuring that the diversity of local communities is fully reflected in the programs, staffing, and governance of the science center.

Also, during the pandemic, the Science Center engaged the community in more in-depth conversations about the exhibit experience. In fall 2020, the Science Center contracted with Thinc, an internationally-renowned exhibit development firm, to develop the concept plan for the exhibit experience. Thinc was selected because of its commitment to engaging the community in the exhibit development process. In mid-November and late December 2020, Thinc conducted six virtual workshops with 80 participants overall representing students, teachers, BIPOC business owners, community and organization leaders, Science Center members, and regional educators. Participants provided specific feedback on the proposed exhibit content.

Community engagement will continue in an iterative fashion throughout the period leading up to the opening of the new science center facility to ensure that the project has provided broad-based opportunities for citizen involvement, utilized resources available within the community, and developed plans for the ongoing operation of the science center that are fully aligned with and reflective of its neighboring communities.

Provide the agencies/groups and their contact information:

Agency/Group	Contact	Title	Phone Number	Email
Allentown Neighborhood Improvement Zone Development Corp	Steven Bamford	Executive Director	610.467.8810x1	sbamford@allentownniz.com
Allentown Parent Network	Volunteer director took a job; organization temporarily on hiatus			
Allentown School District	Jen Ramos	Interim Superintendent	484-765-4154	ramosj@allentownsd.org
Community Action Committee of the Lehigh Valley	Dawn Godshall	Executive Director	610-691-5620	dgodshall@cac NEW in Job
Community Action Development Corporation of Allentown	Dan Bosket	Director	610-433-5703x3103	dbosket@cacw DSC Board
Cultural Coalition of Allentown	Sean King	Director	610-554-0633	sean@culturalcoalitionofallentown.org
Promise Neighborhoods of the Lehigh Valley	Hasshan Batts	Executive Director	610-351-4288	hasshanb@promiseneighborhoodsv.org
Resurrection Life Church	Greg Edwards	Pastor	484-221-8179	revricc@gmail.com
Spanish Immersion Learning Center	Nadia Thalassinou	Founder	610-984-4122	contact@languageprojectllc.com
Union Baptist Church	Benjamin T. Halley	Sr Pastor	610-434-3161	bhalley@ubcallentown.org
Zero Youth Violence Allentown	Promise Neighborhoods of the LV	Hasshan Batts	see above	

8. Catalytic Impacts

Describe how the project is expected to spur additional off-site private investment. Describe whether the project is part of a broader neighborhood/governmental revitalization strategy: Add Rows

How the project will spur additional off-site investment:

The new science center facility is being built within the City of Allentown’s Neighborhood Improvement Zone (NIZ), a special taxing district created by state law in 2011 that is being utilized to encourage development and revitalization in center city Allentown and along the western side of the Lehigh River. In the first 10 years after the establishment of the NIZ more than \$800 million was invested adding more than 3.5 million square feet of new and renovated commercial and residential property, creating more than 4,200 new jobs in downtown Allentown, and attracting more than 3.2 million visitors to the new PPL Center Arena for sports and entertainment events. The next wave of investment within the NIZ is expected to be centered around the opening of the Da Vinci Science Center and the increased economic activity that it will generate in downtown Allentown. The science center facility will be adjacent to and complementary with the PPL Center Arena, with a comparable annual attendance (>400,000 visitors on average) that will be spread evenly throughout the year. The new science center, combined with the PPL Center and other attractions including the Allentown Museum of Art and Miller Symphony Hall, is expected to create a critical mass of activity in the downtown that will greatly increase visitation not only to these venues, but also to surrounding local businesses including restaurants and retail stores. It is anticipated that the new science center facility will catalyze a new wave of investment in downtown Allentown over the next ten years of a similar scale to the investment that was made during the first ten years that the NIZ was in existence.

The Neighborhood Improvement Zone is overseen by the Allentown Neighborhood Improvement Zone Authority (ANIZDA), a state-sanctioned authority that tracks all of the economic activity that takes place within the NIZ including capital investment, employment, tax generation, and visitation to downtown Allentown. All business located within the NIZ are required to file annual reports detailing their business activity and tax generation which is compiled by ANIZDA and reported. Additionally, the Science Center will conduct regular market research to track the activity of its visitors mostly to monitor the effectiveness of its marketing efforts. The results of these studies will also provide ongoing information to track and monitor the catalytic impacts of the project.

Consistency with broader neighborhood / governmental revitalization strategies:

Allentown Vision 2030 Plan:

The Da Vinci Science Center Downtown Allentown project supports the Allentown Vision 2030 Plan adopted by City Council on December 17, 2019 as the City’s Comprehensive 10-Year Economic Development Plan. It specifically supports the City’s commitment to the following integral to its vision for the future:

CONTEXT AND CRITICAL ISSUES – MISSION AND VISION

Economic Inclusion (pages 10-11): The new downtown science center will expand access to jobs, STEAM education, and economic opportunity for Allentown residents as described earlier in this document.

Diversity and Inclusion (page 12): The Da Vinci Science Center plans to celebrate the rich diversity of Allentown and Lehigh Valley residents throughout the experiences at the new science center, establishing an environment where all people feel welcome. Priorities include 1) Championing equity through institutional policies and practices to help eliminate barriers to participation by historically underrepresented groups; 2) Increasing staff diversity through hiring, training, advancement, and retention practices with specific strategies to recruit Allentown residents; 3) Increasing staff cultural competencies through training that promotes inclusive practices; and 4) Increasing participation of historically underrepresented groups in DSC experiences through programs that promote access and experiences that reflect the diversity of the community.

Community Empowerment and Collaboration (page 12): As described earlier, the local community is actively engaged in the development of the new science center. Input from local youth, parents, educators, and community partners has shaped development of the new facility thus far. As the design process continues, the Science Center will be inviting local residents, artists, and scientists to participate in development of the exhibit experiences and design of the exterior Arts Walks on Lumber and Court Streets. All signage in the new facility will be in English and Spanish.

URBAN SYSTEMS

The new science center addresses specific goals for four of the five Urban Systems defined in the Allentown Vision 2030 Plan:

Economic Development (pages 34, 40-48, 56-57, 59, 61, and 72-73):

Increase local employment: The new downtown science center will create new jobs in the City of Allentown, with a priority on hiring local residents who will not need to leave the city for work.

Increase access to training and skill building: The new science center will be a hub for STEAM learning for Allentown residents, a regional center of excellence for STEAM education, and a STEM workforce development resource for northeastern Pennsylvania. As described earlier, many of the new science center’s programs and exhibits will be specifically designed to serve residents of the immediate neighborhoods in an intensive, ongoing fashion. Programs will include digital literacy, a critical skill needed for the future identified in the Allentown 2030 Vision Plan.

Foster small business growth and entrepreneurship: The new downtown science center will be one of the most visited ticketed destinations in the City of Allentown, attracting 485,000 visitors annually bringing new business to Allentown restaurants and retail establishments 360 days per year. It will work with the City and community partners to help activate public places through programs and festivals to encourage visitors to frequent restaurants and retail downtown and in the surrounding neighborhoods. In addition, the Da Vinci Science Center is currently developing a procurement plan to source goods and services from Allentown firms. With support from the City, CADCA, and community partners, implementation at 1st Cedar Crest location will begin in 2022.

Connect to regional markets: The new science center will be a major new entertainment venue in downtown Allentown, expanding reasons to visit often to experience new exhibitions and programs. The Science Center will work closely with the City of Allentown and Discover Lehigh Valley to market Allentown's distinct entertainment, arts, and cultural assets to potential visitors within a 100 mile radius. In the Allentown Vision 2030 Plan, The Catalytic Action in the Economic Development Goals for Urban Systems is to invest in arts and cultural economic development, the focus of this project.

Accessibility and Connectivity (pages 124-125):

Welcome people to the City: The Science Center will work with the City of Allentown on wayfinding signage and branding to promote the City as a whole and provide directions to its distinct amenities, including the new downtown facility. It will also be working closely with the Allentown Parking Authority and the City of Allentown to establish and communicate parking options for science center visitors.

Services and Amenities (pages 134 – 138, 142, 150-151, and 154)

Support neighborhood identity and organizational capacity – Youth empowerment: Educational experiences at the new science center will be designed to support and empower youth and engage their parents and guardians. As described throughout this document, in-school and out-of-school time (after school, weekends, summer months) programs for students will build skills and confidence and expose them to career opportunities and lifelong pursuits heretofore unfamiliar. Families spending time together at the science center will meet STEAM professionals and learn about local people and companies working in STEM sectors to improve our lives. Programs for families at school and community sites, similar to those offered today, will further engage parents and guardians in their children's education.

Foster inclusive and welcoming communities: As described earlier, the Science Center plans to activate the public spaces surrounding its new facility through STEAM experiences that reflect the rich diversity and culture of Allentown. These may include, but are not limited to, murals, interactive STEAM installations, and public programming. Local artists and scientists will be invited to develop these experiences. Similarly, the unique racial, ethnic, and cultural diversity of Allentown will be reflected in exhibit experiences through stories about individuals making contributions to STEAM fields locally and beyond and exhibit experiences such as "How do we see ourselves and each other?" which explore the subjective ways we see one another, race and identity, and the representation and ideals of bodies in pop culture.

In the Allentown Vision 2030 Plan, two of The Catalytic Actions in the Services and Amenities Goals for Urban Systems are Youth Development Through Pre-K and Community Centers. The Science Center currently offers a variety of programs at its current site, at local pre-school sites, and virtually for Pre-K students, teachers and parents to help students develop early STEAM and executive functioning skills. Research has shown that these skills developed at a young age will help prepare preschoolers to be successful in school studies and throughout life. Working closely with community partners, the Science Center will refine these offerings for young children to best meet community needs. Finally, as described earlier, the new science center will become a community hub for youth to engage in STEAM learning during out-of-school times.

Living Systems (pages 158-164, 167-168, 171, 173):

Increase Environmental Stewardship: Through its exhibitions and programs, the new science center will play an important role in educating Allentonians about how to improve community health, environmental stewardship, and climate change. In collaboration with local health care providers, its major exhibition on My Body will educate visitors about the innovative thinking of health and medicine in caring for our well-being as individuals and communities. In collaboration with the Wildlands Conservancy, its major exhibition on the Lehigh River Watershed will help visitors consider how they can play a role in protecting and preserving the environment and the impact of their actions locally and globally. Finally, the new science center will demonstrate the use of renewable energy sources to help fuel its operation and educate visitors about greenhouse gas emissions and the role they can play supporting the health of ecological systems. Its plaza and terrace will demonstrate the use of green infrastructure for stormwater management.

9. Timing

What is the expected closing date for the NMTC transaction? Describe any specific factors that might affect the timing of the closing:

Construction Start Date:

Construction End Date:

10. "But For" Test

Describe the need for NMTC financing. Why does the project need the specific amount of NMTC allocation being requested?

NMTCs are needed to close a \$6MM funding gap caused by: 1) the project cannot support any debt paid from operational revenues; all potential outside sources of capital have been fully utilized but a gap still exists, 2) this project is experiencing higher than usual construction costs due to the special purpose nature of the facilities, and 3) the project must keep pricing affordable to disadvantaged individuals and businesses that can benefit from the center.

What would be the impact to the project if it does not receive NMTC financing?

The project is not feasible without the requested allocation due to the high level of poverty in the area, which sharply limits how much the science center can charge. This project has been carefully and purposefully designed to accomplish two overarching objectives: 1) to serve as a major new destination in downtown Allentown attracting an estimated 485,000 visitors annually and 2) to serve as a major STEAM education resource for the region with a special focus on low- and moderate-income residents of Allentown. The cost of developing a facility of this quality with world-class exhibits is significant as it will need to be competitive with similar facilities in the nearby Philadelphia and New York City markets in order to be successful. Because of the educational nature of the facility and its focus on serving low- and moderate income individuals regardless of their ability to pay, the project will rely upon a mix of earned and contributed revenues to sustain itself operationally and thus cannot support any debt that would need to be paid from operating cash flow. All of the capital needed for the project must be raised from public and private funding sources. Based on the progress to date in fundraising for the project, the Science Center is confident of its ability to raise \$63.6 million of the projected \$69.6 million project cost from public and private sources, with sufficient funds in place by December 31, 2021 for groundbreaking in April 2022. A \$30 million New Markets Tax Credits financing that would yield approximately \$6 million in funding to the project would fill the funding gap needed to complete exhibition development, enabling exhibit fabrication to commence in July 2022, and put the facility on track to open to the public in early 2024. The \$63.6 million that the Science Center anticipates raising for this project will represent the largest amount ever raised for a project of this type within the Lehigh Valley, an area with limited capacity for private philanthropic support. New Markets Tax Credits are being sought to fill the investment gap that will bring this world-class facility to the third-largest metropolitan area in the state of Pennsylvania.

Are there community impacts that will not be achieved if NMTC allocation is not obtained?

Identify the primary financial beneficiary(ies) of the NMTC financing:
The Da Vinci Discovery Center of Science and Technology, Inc., is the nonprofit operator of the facility, the QALICB and beneficiary.

Is there public financing that is being utilized for the project? Describe the actions that the project has taken to utilize public financing in lieu of NMTC financing?

-The Commonwealth of Pennsylvania is providing \$20M of grant support for the project through The Gaming Economic Development and Tourism Fund (GEDTF), which was established by the same legislation which legalized slot machines at licensed casinos in Pennsylvania, and created GEDTF to fund economic development and tourism projects in Pennsylvania; funded by a 5.5% levy on gross terminal revenues. Legislation enacted in 2017 and 2019 appropriated \$20M to the Da Vinci Science Center in ten (10) annual payments of \$2 million beginning in fiscal year 2019-20. It should be noted that the first two payments have been received and that these payments are not subject to legislative appropriation.

-The Commonwealth has also awarded \$9MM in grants under the Redevelopment Assistance Capital Program, a Commonwealth grant program administered by the Office of the Budget for the acquisition and construction of regional economic, cultural, civic, recreational, and historical improvement projects.

-In Oct., 2020, the City of Allentown received approval from HUD for a \$5.6M Section 108 loan.

-The new science center will be located in Allentown's Neighborhood Improvement Zone (NIZ). In September 2021, the Science Center secured approval from the ANIZDA board for \$5.8 MM to be financed against future tax revenues with PA legislation enacted in 2011.

Is there private, market-rate financing that is being utilized for the project? Describe the actions that the project has taken to utilize private, market-rate financing in lieu of NMTC financing?

There is no debt associated with this project. Once open, the annual operating budget of the new science center cannot support debt that would severely limit the resources available to enable low-income residents in surrounding neighborhoods

to visit regularly and enroll in education and training programs. Without the requested NMTC allocation, the ability of low-income individuals to benefit from the project is at risk.

Describe the owner equity involved in the project? Describe the owner equity limitations as a substitute for NMTC financing?

[Add Rows](#)

The project sponsor does not have the financial capacity to undertake the project without substantial public and private support.

End of Document

Payroll - Business Plan @ 400K Participants							
SCIENCE CENTER:	Dept	Level	FTE's	Avg Salary	Total Salary	Total Benefits	Total Comp
Administration							
Executive Director / CEO	Adm/Fin	Exec	1.0	\$ 200,000	\$ 200,000	\$ 50,000	\$ 250,000
COO	Adm/Fin	Sr Dir	1.0	\$ 135,000	\$ 135,000	\$ 33,750	\$ 168,750
Executive Assistant	Adm/Fin	Coord/Tech	1.0	\$ 45,000	\$ 45,000	\$ 11,250	\$ 56,250
Total			3.0				\$ 475,000
Finance/HR/IT							
CFO	Adm/Fin	Sr Dir	1.0	\$ 135,000	\$ 135,000	\$ 33,750	\$ 168,750
Finance Manager	Adm/Fin	Mgr	1.0	\$ 70,000	\$ 70,000	\$ 17,500	\$ 87,500
Finance Specialists	Adm/Fin	Coord/Tech	1.0	\$ 45,000	\$ 45,000	\$ 11,250	\$ 56,250
IT Manager	Adm/Fin	Mgr	1.0	\$ 60,000	\$ 60,000	\$ 15,000	\$ 75,000
HR Manager	Adm/Fin	Mgr	1.0	\$ 60,000	\$ 60,000	\$ 15,000	\$ 75,000
Admin. Asst. / Coords	Adm/Fin	Coord/Tech	1.0	\$ 40,000	\$ 40,000	\$ 10,000	\$ 50,000
Total			6.0				\$ 512,500
Philanthropy							
CPO	Phil	Sr Dir	1.0	\$ 125,000	\$ 125,000	\$ 31,250	\$ 156,250
Major Gifts	Phil	Mgr	1.0	\$ 70,000	\$ 70,000	\$ 17,500	\$ 87,500
Grants Mgr/Institutional Mgr	Phil	Mgr	1.0	\$ 70,000	\$ 70,000	\$ 17,500	\$ 87,500
Gifts Coordinator	Phil	Coord/Tech	1.0	\$ 40,000	\$ 40,000	\$ 10,000	\$ 50,000
Event Associates (Philanthropy - PT)	Phil	PT	0.3	\$ 31,200	\$ 7,800	\$ 975	\$ 8,775
Total			4.3				\$ 390,025
Marketing/Sponsorship							
Marketing Director	Mktg	Dir	1.0	\$ 100,000	\$ 100,000	\$ 25,000	\$ 125,000
Advertising / Promotion Manager	Mktg	Mgr	1.0	\$ 60,000	\$ 60,000	\$ 15,000	\$ 75,000
Communications Director	Mktg	Dir	1.0	\$ 75,000	\$ 75,000	\$ 18,750	\$ 93,750
Group Sales / Facility Managers	Mktg	Mgr	1.0	\$ 55,000	\$ 55,000	\$ 13,750	\$ 68,750
Group Sales / Facility Coords	Mktg	Coord/Tech	1.0	\$ 40,000	\$ 40,000	\$ 10,000	\$ 50,000
Membership Manager	Mktg	Mgr	1.0	\$ 50,000	\$ 50,000	\$ 12,500	\$ 62,500
Mktg/Mmbrshp Coordinator	Mktg	Coord/Tech	1.0	\$ 35,000	\$ 35,000	\$ 8,750	\$ 43,750
Event Associates (Facility Rentals - PT)	Mktg	PT	3.2	\$ 31,200	\$ 99,900	\$ 12,488	\$ 112,388
Total			10.2				\$ 631,138
Education/Exhibits/Programs							
Education Program Sr. Director	Ed	Sr Dir	1.0	\$ 100,000	\$ 100,000	\$ 25,000	\$ 125,000
Chief Curator/Living Collections	Ed	Sr Mgr	1.0	\$ 90,000	\$ 90,000	\$ 22,500	\$ 112,500
Chief Curator/Technology	Ed	Sr Mgr	1.0	\$ 75,000	\$ 75,000	\$ 18,750	\$ 93,750
Reserved Program Mgr	Ed	Mgr	1.0	\$ 60,000	\$ 60,000	\$ 15,000	\$ 75,000
Reserved Program Coordinator	Ed	Coord/Tech	1.0	\$ 35,000	\$ 35,000	\$ 8,750	\$ 43,750
Public Programs Manager	Ed	Mgr	1.0	\$ 60,000	\$ 60,000	\$ 15,000	\$ 75,000
Public Programs Coordinator	Ed	Coord/Tech	1.0	\$ 35,000	\$ 35,000	\$ 8,750	\$ 43,750
Camps/Workshops Manager	Ed	Mgr	1.0	\$ 50,000	\$ 50,000	\$ 12,500	\$ 62,500
Exhibits Operations Coordinator	Ed	Coord/Tech	1.0	\$ 40,000	\$ 40,000	\$ 10,000	\$ 50,000
Design Manager	Ed	Mgr	1.0	\$ 60,000	\$ 60,000	\$ 15,000	\$ 75,000
Animal Care Director	Ed	Dir	1.0	\$ 75,000	\$ 75,000	\$ 18,750	\$ 93,750
Animal Care Technician	Ed	Coord/Tech	1.0	\$ 45,000	\$ 45,000	\$ 11,250	\$ 56,250
Educators (Reserved Programs - PT)	Ed	PT	5.7	\$ 31,200	\$ 179,229	\$ 22,404	\$ 201,633
Educators (Museum Floor - PT)	Ed	PT	2.8	\$ 31,200	\$ 86,445	\$ 10,806	\$ 97,251
Educators (Public Programs - PT)	Ed	PT	4.6	\$ 31,200	\$ 142,584	\$ 17,823	\$ 160,407
Total			25.1				\$ 1,365,541
Visitor Services							
Admissions Manager	VS	Mgr	1.0	\$ 60,000	\$ 60,000	\$ 15,000	\$ 75,000
Admissions Coordinator	VS	Coord/Tech	1.0	\$ 35,000	\$ 35,000	\$ 8,750	\$ 43,750
Visitor Service Associates (PT)	VS	PT	5.7	\$ 31,200	\$ 179,088	\$ 22,386	\$ 201,474
Total			7.7				\$ 320,224

Facilities							
Facilities Director	Fac	Dir	1.0	\$ 75,000	\$ 75,000	\$ 18,750	\$ 93,750
Facilities Manager	Fac	Mgr	1.0	\$ 50,000	\$ 50,000	\$ 12,500	\$ 62,500
Facilities Technician	Fac	Coord/Tech	4.0	\$ 40,000	\$ 160,000	\$ 40,000	\$ 200,000
Facilities Associates (PT)	Fac	PT	1.0	\$ 31,200	\$ 32,279	\$ 4,035	\$ 36,313
Security Coordinator	Fac	Coord/Tech	2.0	\$ 35,000	\$ 70,000	\$ 17,500	\$ 87,500
Total			9.0				\$ 480,063
STEAM TEAM							
Chief Education/Programs Officer	StTm	Sr Dir	1.0	\$ 100,000	\$ 100,000	\$ 25,000	\$ 125,000
Outreach Manager	StTm	Mgr	2.0	\$ 60,000	\$ 120,000	\$ 30,000	\$ 150,000
Outreach Coordinator	StTm	Coord/Tech	4.0	\$ 40,000	\$ 160,000	\$ 40,000	\$ 200,000
Outreach PT	StTm	PT	3.9	\$ 31,200	\$ 123,149	\$ 15,394	\$ 138,543
Professional Dev Manager	StTm	Mgr	1.0	\$ 60,000	\$ 60,000	\$ 15,000	\$ 75,000
Prof Dev PT	StTm	PT	0.2	\$ 31,200	\$ 4,688	\$ 586	\$ 5,273
Total			12.1				\$ 693,816
Total Science Center Employees			77.4				\$ 4,868,307

SUBCONTRACTORS:	Dept	Level	FTE's	Avg Salary	Salary	Benefits	Total Comp
Retail Sales Managers	Retail	Mgr	2.0	\$ 35,000	\$ 70,000	\$ 19,600	\$ 89,600
Retail Sales Associates (PT)	Retail	PT	3.1	\$ 24,000	\$ 74,585	\$ 8,950	\$ 83,535
Food Service Managers	Food Svc	Mgr	5.0	\$ 35,000	\$ 175,000	\$ 49,000	\$ 224,000
Food Service Associates (PT)	Food Svc	PT	4.9	\$ 24,000	\$ 118,317	\$ 14,198	\$ 132,516
Event Catering Managers	Catering	Mgr	2.0	\$ 40,000	\$ 80,000	\$ 22,400	\$ 102,400
Event Catering Associates (PT)	Catering	PT	6.3	\$ 24,000	\$ 150,029	\$ 18,004	\$ 168,033
Auxiliary Program Managers	Auxiliary	Mgr	2.0	\$ 50,000	\$ 100,000	\$ 28,000	\$ 128,000
Auxiliary Program Associates (PT)	Auxiliary	PT	2.9	\$ 24,000	\$ 70,645	\$ 8,477	\$ 79,122
Security Associates (PT)	Security	PT	1.8	\$ 28,000	\$ 49,075	\$ 5,889	\$ 54,964
Total Subcontractor Employees			30.0				\$ 1,062,169
TOTAL EMPLOYMENT			107.4				\$ 5,930,476

MASTER PLAN OVERVIEW

DA VINCI SCIENCE CENTER – DOWNTOWN ALLENTOWN



This project was funded in part by the Commonwealth of Pennsylvania, Department of Community and Economic Development

INTRODUCTION

The development of this Master Plan represents the culmination of a nearly year-long effort that has taken place since the Board of Trustees elected to not move forward with the original site for our expansion project in the City of Easton in May of 2019.

As you know, in recent weeks the Coronavirus Pandemic has reached the United States and has greatly impacted our communities, our way of life, and our economy. Given that the full impact of Coronavirus is not clear at this time, and may not be fully understood for some time, we have modified the Master Plan accordingly and identified ways in which we can advance the project during this difficult time utilizing funding that is currently available to the project.

As you will see on the pages that follow, we are recommending moving forward in the coming months with architectural design, exhibit design, and ongoing coordination of the project with the City of Allentown, ANIZDA, and the Commonwealth of Pennsylvania. This will allow us to move the project forward during these uncertain times, and to further secure the public funding available to the project.

This Master Plan also recommends moving forward with the research, planning and other preparations needed to eventually launch a private fundraising campaign at a point in the future when the Science Center believes that it is appropriate to do so.

By further advancing the project in this fashion, we will be able to continue moving forward on our current timeline, get the project into a “shovel ready” status that could allow it to be eligible for public economic-stimulus funding that will likely become available in the coming months, and put us in a stronger position to launch a private fundraising campaign at a time in the future when we agree that it is appropriate to do so.

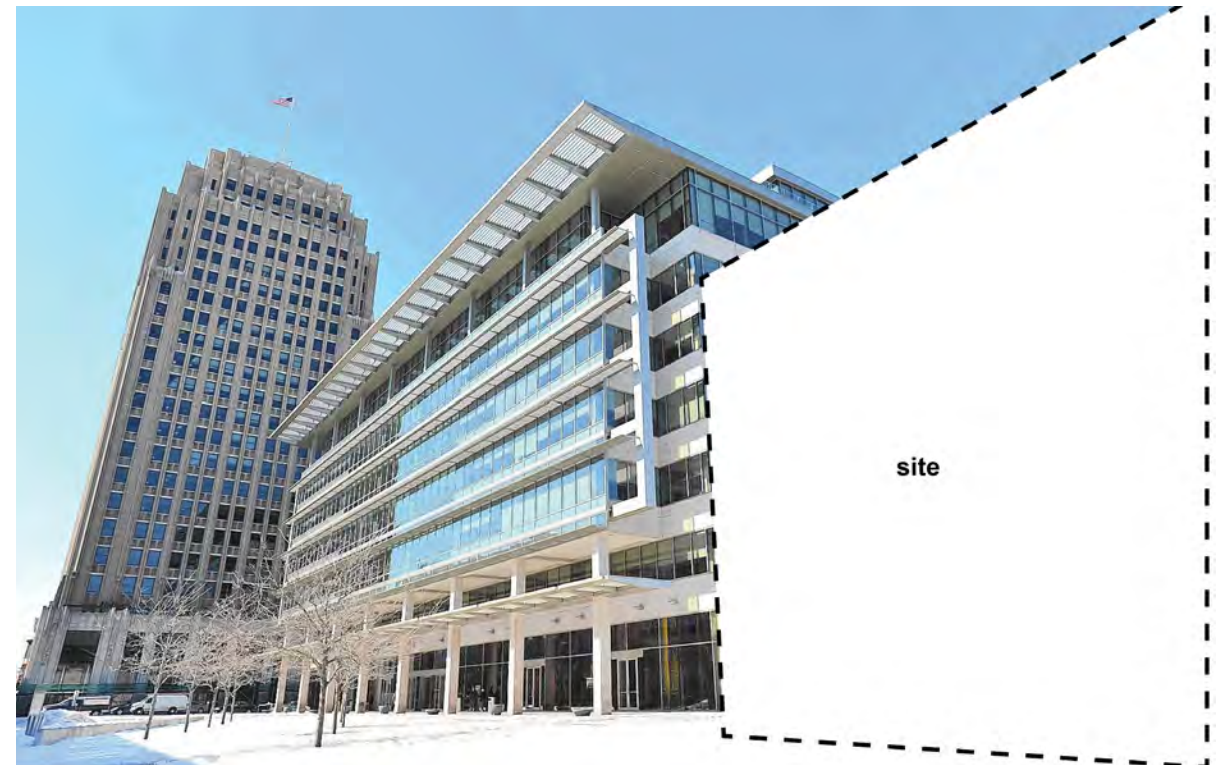
As the total impact of the Coronavirus Pandemic begins to clarify in the coming weeks and months, we may need to adjust the timeline for the project to allow for delays in fundraising commitments. We will also pursue one-time public funding opportunities that may become available in the wake of the Coronavirus Pandemic and proactively seek to identify opportunities to reduce the overall cost of the project.

We believe this course of action will allow us to continue to pursue our dream of a major new Science Center facility in Downtown Allentown, further plan for our future during these difficult times, while in the process be able to strengthen the Science Center's finances.

The past weeks have certainly underscored the importance of STEM in our daily lives, and the tremendously valuable role that we play “Bringing Science to Life and Lives to Science” in our community. We look forward to your comments on the Master Plan, and on our plans to continue to advance this project to better serve our mission.

SITE

- 1.25 Acre Site
- 800 Block of Hamilton Street
- Located in the center of Downtown Allentown
- Situated within the Neighborhood Improvement Zone
- Parking available in adjacent parking deck, on-street, and in other nearby parking facilities
- Court Street at rear of site will accommodate buses and drop-off
- Entry Plaza to align with adjacent Grand Plaza
- Overhead Pedestrian Bridge envisioned from Spiral Deck Garage
- Pedestrian Arts-Walk improvements envisioned along Court St. and Lumber St. corridors



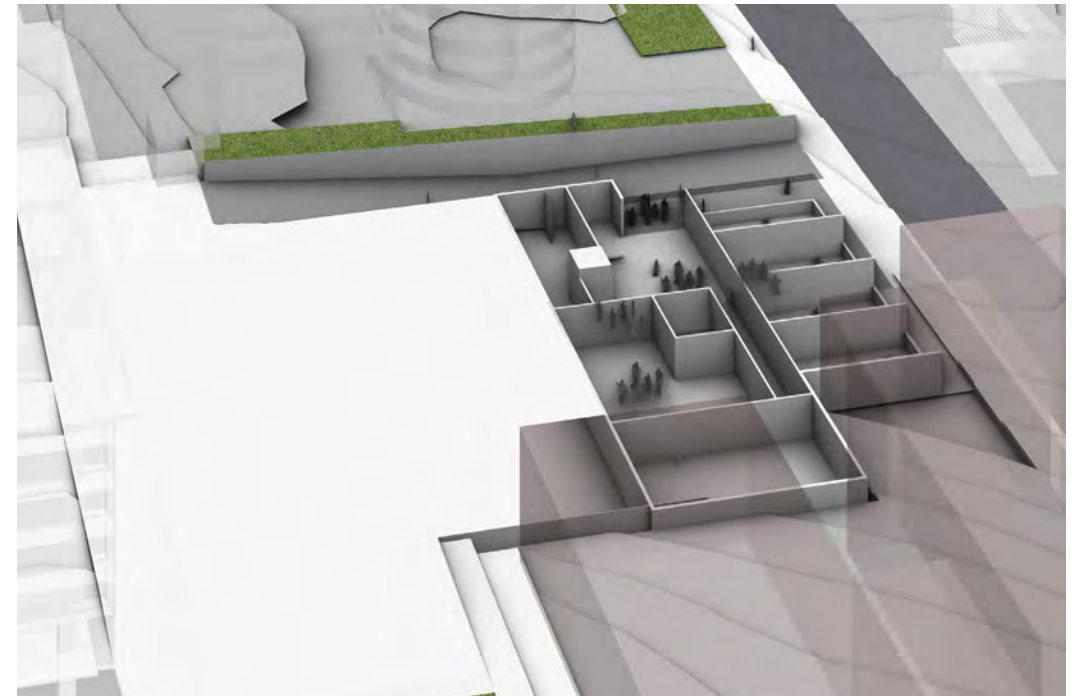
FACILITY

- 65,000 SF
- 3 Level Facility
- 30,000 SF of Exhibits
- Grand Courtyard and Event Space
- Demonstration Theater – Seats 175
- STEAM Learning Center
- Café, Restaurant, Catering Facilities
- Entrances on Hamilton St. (Public) and 8th St. (STEAM Learning Center)
- Expansion Opportunities on Level 3 and Future Level 4
- Minimal office space – administrative offices to be located nearby



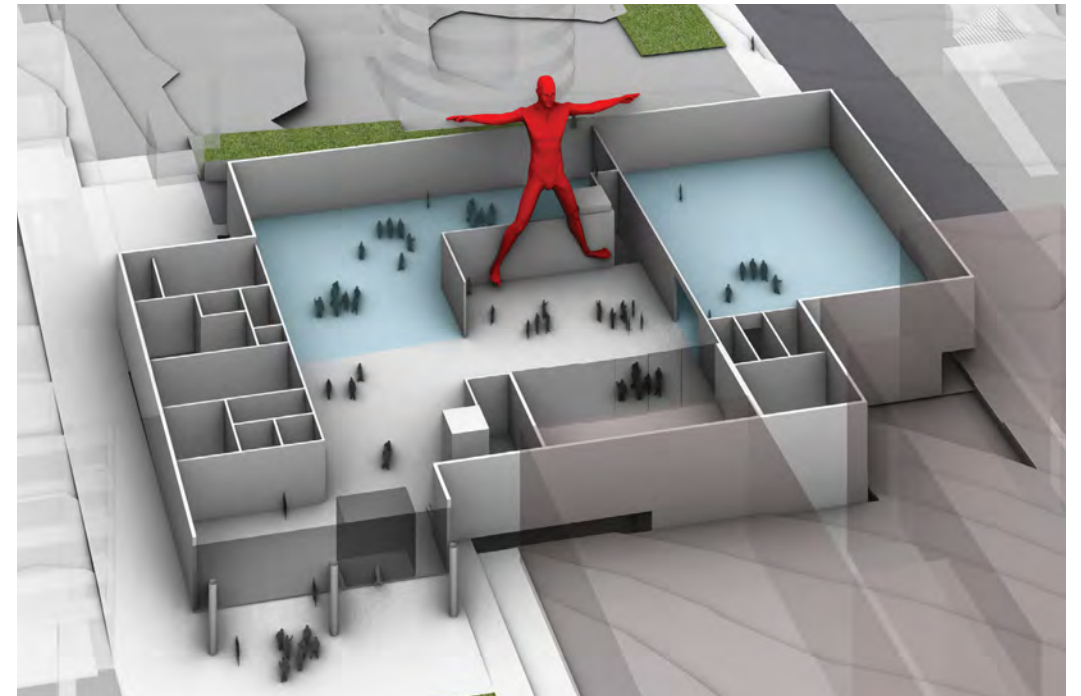
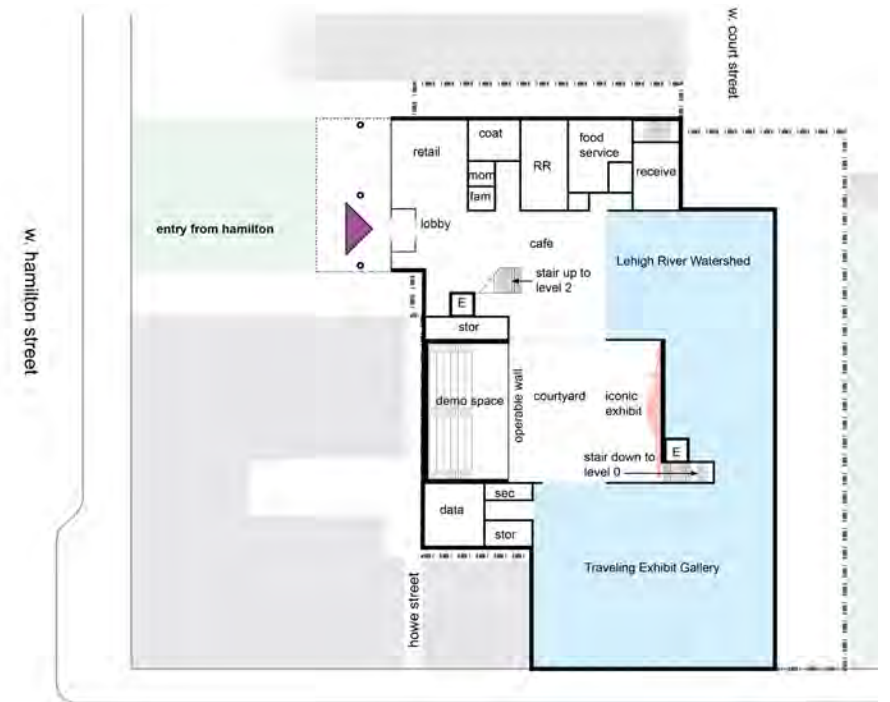
LOWER LEVEL

- 12,600 SF
- Entrance from 8th St./Court St.
- Stairs and Elevator to Main Level
- Classroom and Labs
- Group/Education Entrance
- Bus Loading on Court St.
- Workshop Drop-off on Court St.
- Receiving Area for Traveling Exhibitions
- Staff and Support Space
- Possible Enlargement of 6,000 SF to 18,600 SF



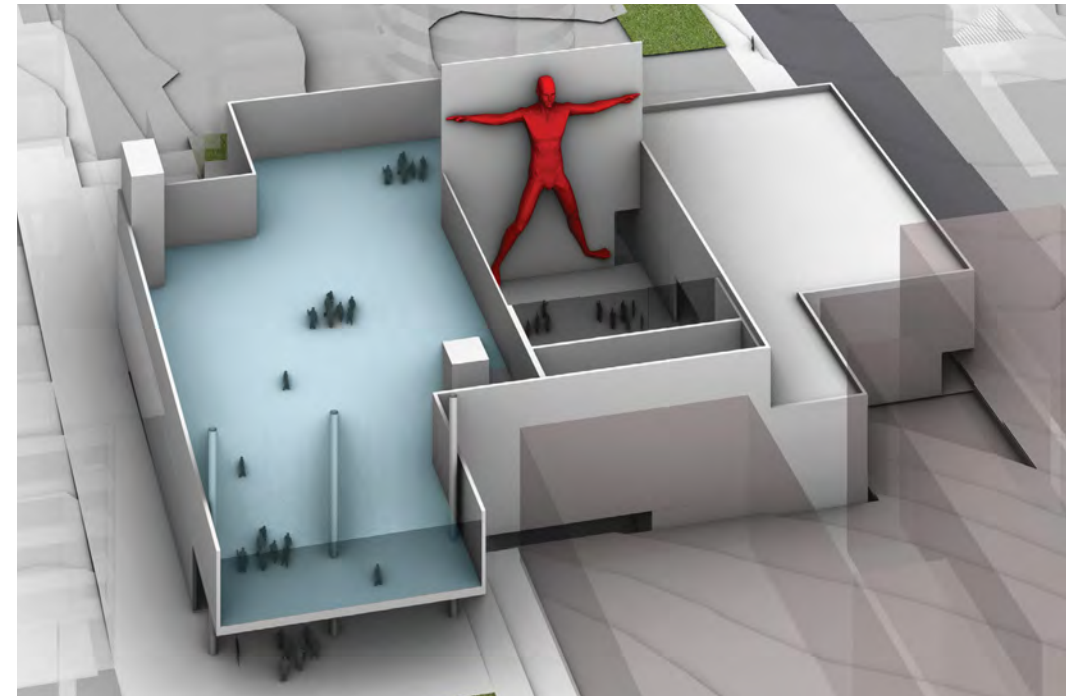
MAIN LEVEL

- 32,000 SF
- Entrance on Hamilton Street
- Main Lobby Leading to Grand Courtyard
- 60-foot tall Human Body Sculpture
- Demonstration Theater
- Event Space with seating for up to 300
- Traveling Exhibition Gallery
- Lehigh River Watershed Exhibition Gallery
- Café and Gift Shop
- Receiving area for daily deliveries at rear of facility
- Stairs and Elevators to Upper Level Exhibit Galleries



UPPER LEVEL

- 20,000 SF
- Made in the Lehigh Valley Manufacturing Exhibit Gallery
- My Body Exhibit Gallery
- Immersive Human Body Experience
- Curiosity Lab Exhibit Gallery
- Views into Grand Courtyard Below
- Future Expansion onto Roof/Terrace (9,400 SF)
- Pedestrian Bridge Option from Parking Deck
- Accessible via Stairs and 2 Elevators



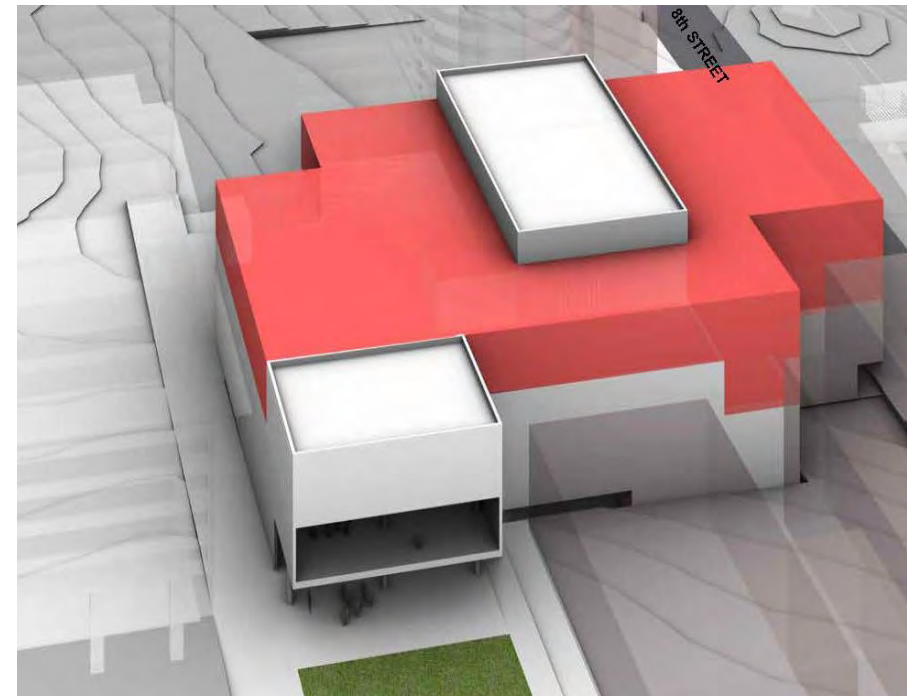
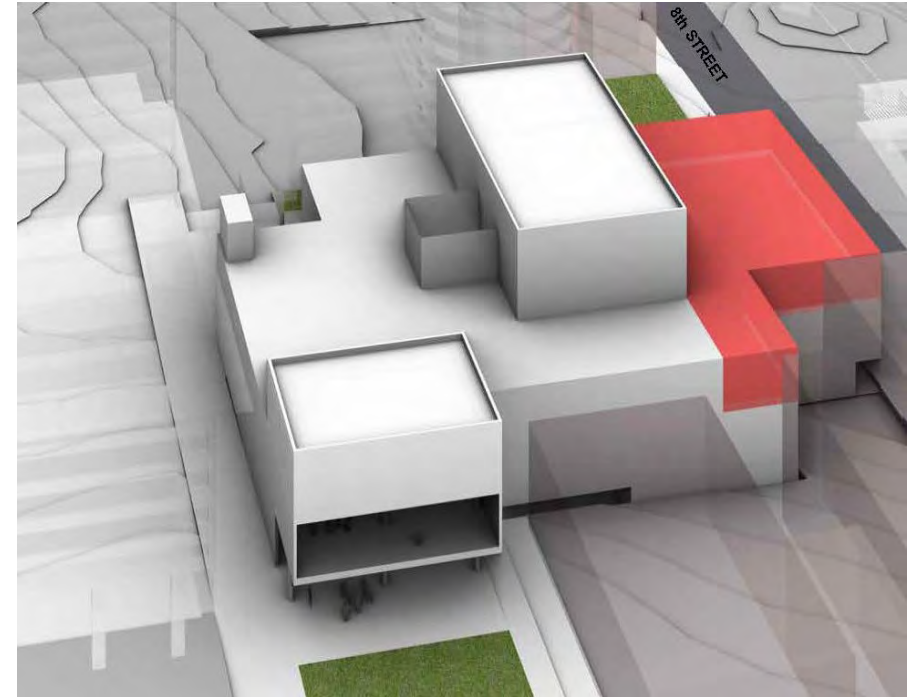
FUTURE EXPANSION OPTIONS

1. UPPER LEVEL EXPANSION ONTO ROOF – 9,400 SF

- Expansion could be outdoor terrace space or enclosed interior space
- Preparation of this space for future use is included within the project cost forecast

2. NEW FLOOR ADDED ABOVE IN THE FUTURE – 23,000 SF

- Pursuit of this option will require approximately \$300,000 - \$400,000 in additional structural costs during the initial construction of the building
- These additional costs are currently not factored into the project cost forecast
- A decision regarding this option would need to be made later this year



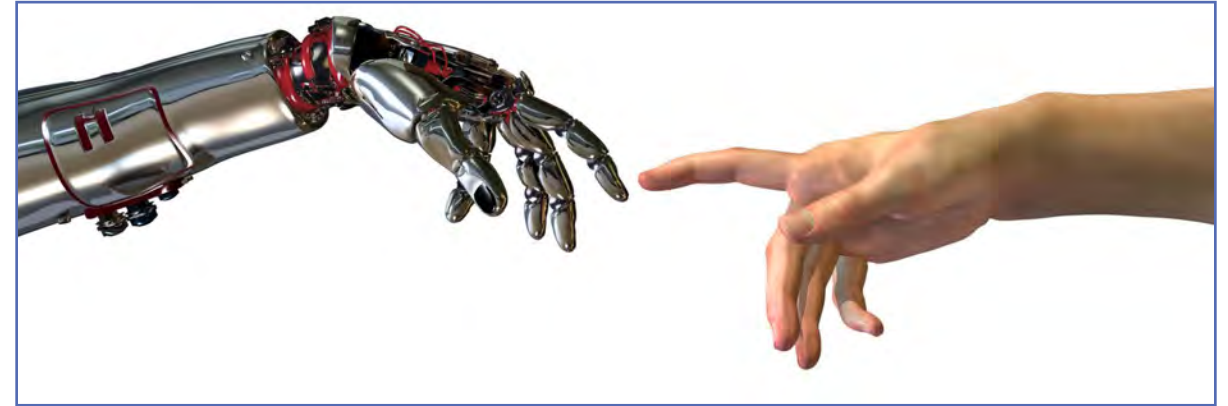
THE DA VINCI SCIENCE CENTER EXPERIENCE - INSPIRING CURIOSITY

- The Da Vinci Science Center takes its name from perhaps the most curious person that ever lived
- The Da Vinci Science Center experience will celebrate Leonardo's genius with exhibits and programs that encourage students and families to explore and learn together
- The Da Vinci Science Center experience will foster Leonardo's way of thinking, to ignite young minds and inspire future generations of inventors, innovators and entrepreneurs



THE DA VINCI SCIENCE CENTER EXPERIENCE - BRINGING SCIENCE TO LIFE AND LIVES TO SCIENCE

- The Da Vinci Science Center celebrates Leonardo's creative genius through fun hands-on learning experiences that spark curiosity and a desire to learn, encourage visitors to think for themselves, and promote discovery through inquiry, design thinking, project-based learning, and making connections between science and the arts



"The genius of Leonardo resides in not only what he created, but in what he can inspire us to create."

Michael Gelb, Author
How to Think Like Leonardo



Inquiry



Design thinking



Project-based learning



Connecting science and the arts

LEONARDO DA VINCI EXPERIENCE

- Leonardo da Vinci and his insatiable curiosity will be a unifying theme integrated through the exhibits and program experience
- A multi-media show emphasizing Leonardo da Vinci and his curiosity will introduce visitors to Leonardo da Vinci, Charles Dent and innovators from our community and beyond
- An interactive exhibit experience in the Main Lobby will reinforce themes in the multi-media show
- The 60-foot-tall Body Sculpture will offer a multimedia program featuring da Vinci and encouraging visitors to explore the math, science and art behind his famous Vitruvian Man
- Da Vinci connections and his work as a scientist, painter, sculptor and inventor will be integrated into each of the major exhibit areas
- Outdoor spaces including the plaza and pedestrian walkways will present additional opportunities for Da Vinci experiences



GRAND COURTYARD/HUMAN BODY SCULPTURE EXPERIENCE

- 60-foot-tall sculpture of the human body
- Designed to be an iconic, central experience
- Featuring visitor-controlled multimedia shows about:
 - Human anatomy
 - Health and wellness
 - The human form
- Celebrating the creative genius of Leonardo Da Vinci
- Visitors can project themselves onto the sculpture
- Advanced projection techniques bring the body sculpture to life
- Grand Space for Special Events and Rentals



MY BODY EXHIBIT

- Largest of the four major exhibit areas
- Located in the Main Level Grand Courtyard and Upper Level Exhibit Galleries
- Three components:
 - Human Body Sculpture
 - Immersive Body Experience
 - My Body Exhibit Gallery
- The Immersive Body Experience will have 40-foot high ceilings
- The Immersive Body Experience will combine giant-scale exhibit environments in a vertical exhibit setting
- The Immersive Body Experience will:
 - Take visitors on an immersive 3-D tour inside the human body
 - Encourage climbing and crawling into and around giant organs such as the heart, lungs and brain
- The My Body Exhibit Gallery will feature interactive exhibits covering important topics about the human body, health, and wellness.



LEHIGH RIVER WATERSHED EXHIBIT

- Explores the Lehigh River's 103-mile journey from Pocono Peak Lake to the Delaware River
- Demonstrates the importance of the 1,360 square-mile Lehigh River Watershed
- A large scale interactive map lets visitors locate their own "address" within the watershed
- Offers ways in which visitors can become engaged in protecting the watershed
- Incorporates living plants and animals into the exhibit experience
- Live animal exhibits may include River Otters, a Meadow exhibit with live Butterflies, or other habitats



MADE IN THE LEHIGH VALLEY EXHIBIT

- Explores manufacturing in the Lehigh Valley with a particular focus on advanced manufacturing
- Set within a full-room immersive setting that gives visitors the sense that they are on the floor of a local manufacturing facility
- Showcases products made in the Lehigh Valley
- Presents career opportunities in manufacturing and features STEM careers with Lehigh Valley manufacturers
- Exhibit floor filled with interactive devices that explore the manufacturing process
- Developed in partnership with the Manufacturers' Resource Center and local manufacturing companies



CURIOSITY LAB EXHIBIT

- Presents classic science center interactive experiences especially designed for young children and family learning
- Emphasizes STEAM and integrates the arts
- Explores a wide range of scientific phenomena that are visually interesting and that invoke curiosity
- Features large-scale experiences that are fun for both participants and on-lookers
- Includes one or more integrated demonstration areas within the exhibit



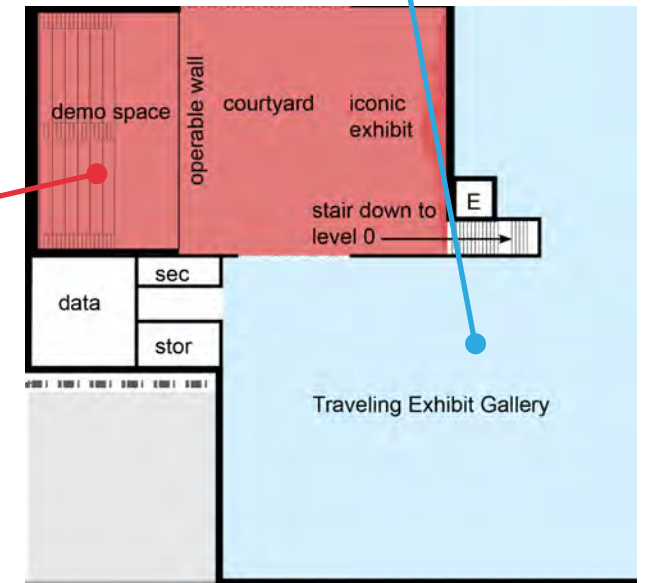
TEMPORARY EXHIBITION GALLERY

- 8,000 SF
- Separate Receiving Area for Easy Load In/Load Out
- Designed to Allow for Separate Access and Ticketing



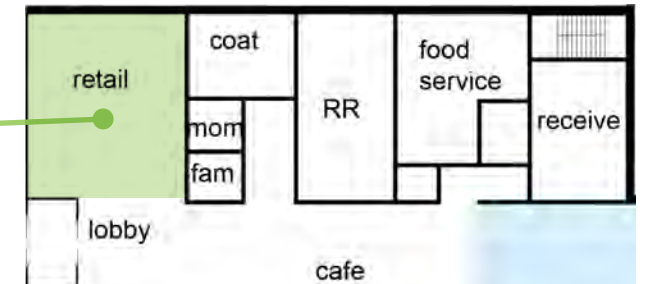
DEMONSTRATION THEATER

- Seating Capacity – 175
- Operable Front Wall can open up to Grand Courtyard
- Outfitted for live shows and projection
- Seating can retract for special events



CAFÉ AND GIFT SHOP

- Located within the Visitor Services Hub immediately inside the Main Entrance
- 1,000 SF of selling space
- Visible from Hamilton Street



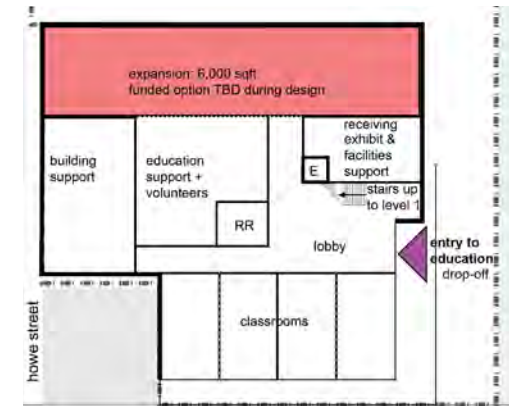
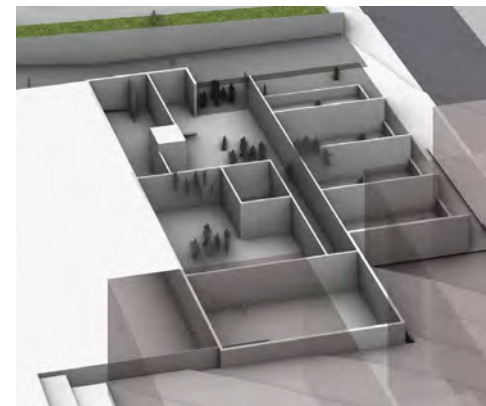
STEAM LEARNING CENTER

PURPOSE

To create a space to serve priority community needs through unique experiences and partnerships that motivate youth to pursue and persist in STEAM and consider careers in these fields

FACILITY

- 12,600 SF dedicated space within the new facility, that could be expanded to as much as 18,600 SF with additional funding
- A distinct naming opportunity with exterior visibility
- Separate entrance from 8th Street
- Main entrance for arriving school groups and workshop participants
- Direct connection to exhibit areas via stairs and elevator
- Support spaces for staff and volunteers
- 4 specially equipped classrooms and labs



STEAM LEARNING CENTER

GOALS

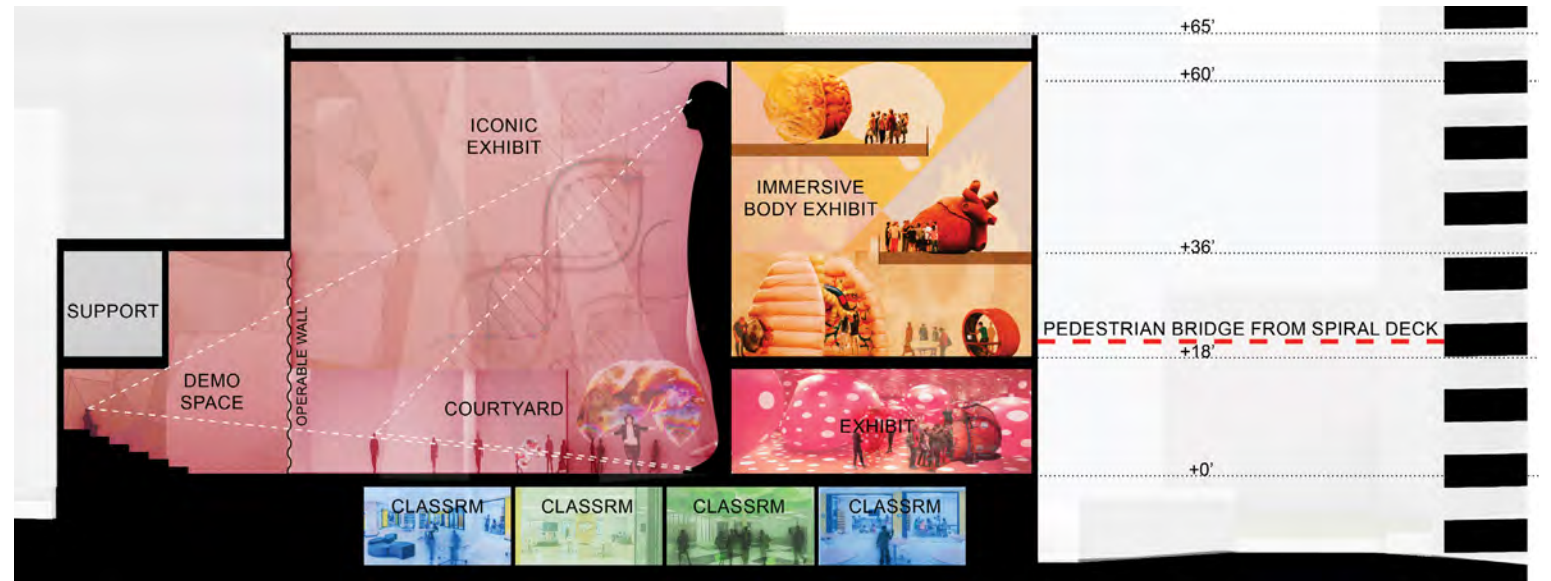
- Provide engaging STEAM programs for guests of all ages to more fully meet the demand for STEAM experiences
- Support great STEAM teaching that accelerates the preparation of a diverse 21st century workforce
- Engage and sustain interest in STEAM for middle school students and girls
- Ignite a Da Vinci-like curiosity about the natural world using tools and equipment that cannot be explored anywhere else
- Deeply engage the Allentown community in STEAM
- Create pathways to career and college readiness in STEM and STEAM Education

FEATURED PROGRAMS

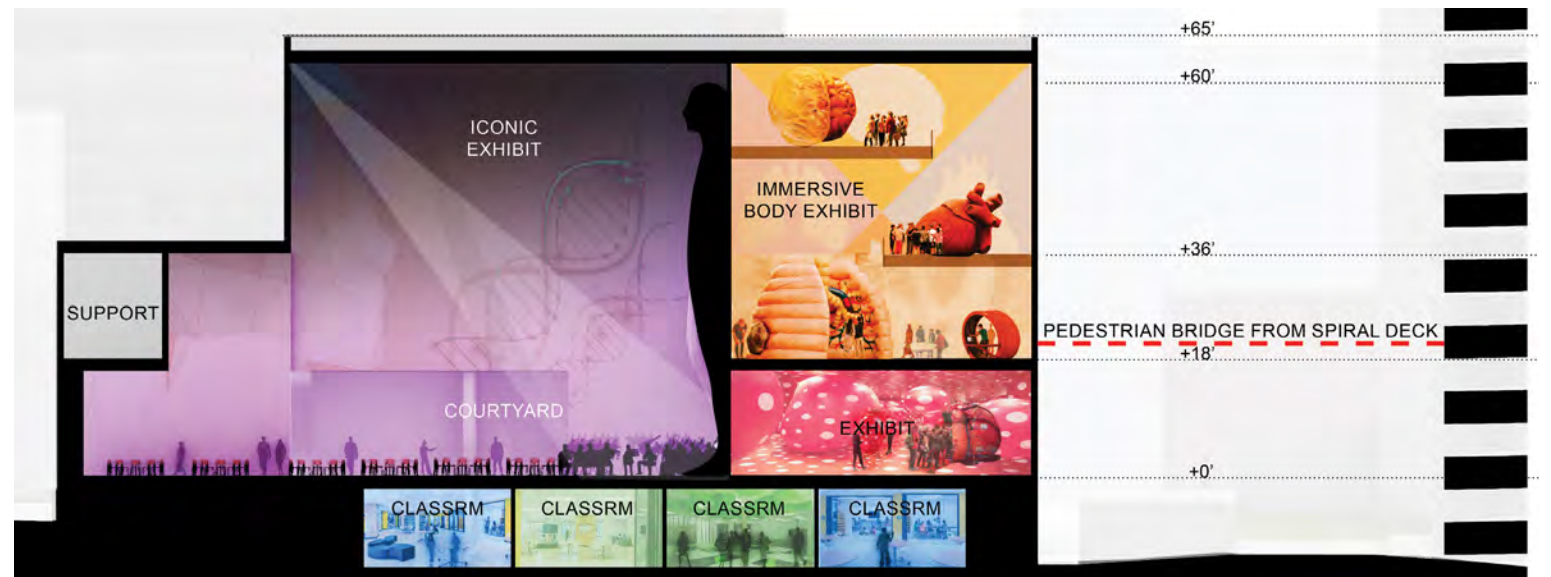


EXPERIENCE AT A GLANCE – VIEW FROM 8TH STREET

DAYTIME OPERATING MODE

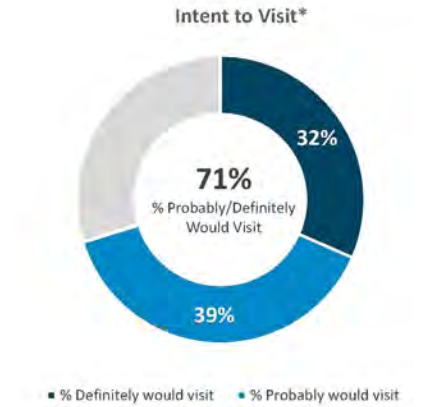


EVENING/EVENT OPERATING MODE

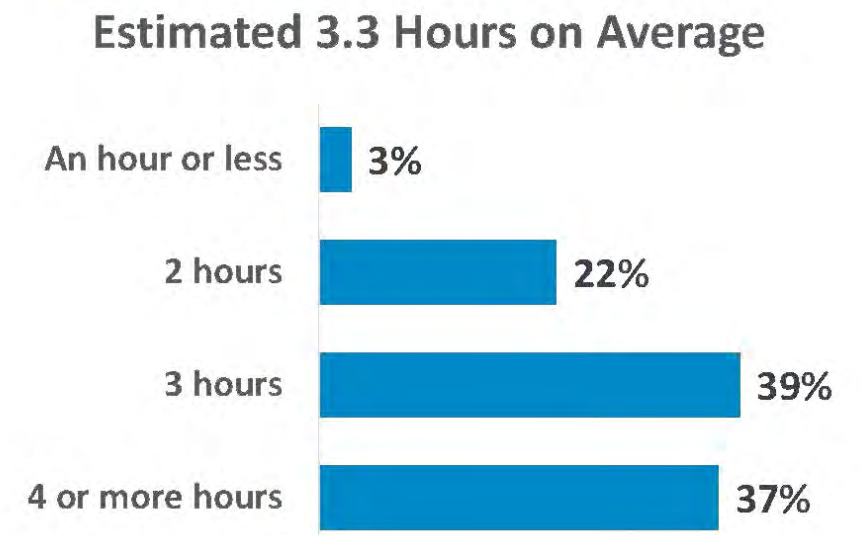


MARKET RESEARCH RESULTS

- A consumer study was conducted by H2R Market Research to get consumer feedback on the new location and the revised program plan
- 800 consumers were interviewed within a 100-mile radius of downtown Allentown
- A subset “target audience” – families with children - was also analyzed
- 86% of consumers surveyed liked the concept and 71% of respondents indicated their intent to visit
- The results are somewhat lower than the study conducted for the Easton project, but they exceed H2R’s industry norms
- The results are equal to or greater than scores for competitive regional attractions such as the Franklin Institute, Liberty Science Center and Crayola Experience
- Consumer feedback regarding the average dwell time was 3.3 hours, which is in-line with our business plan expectations



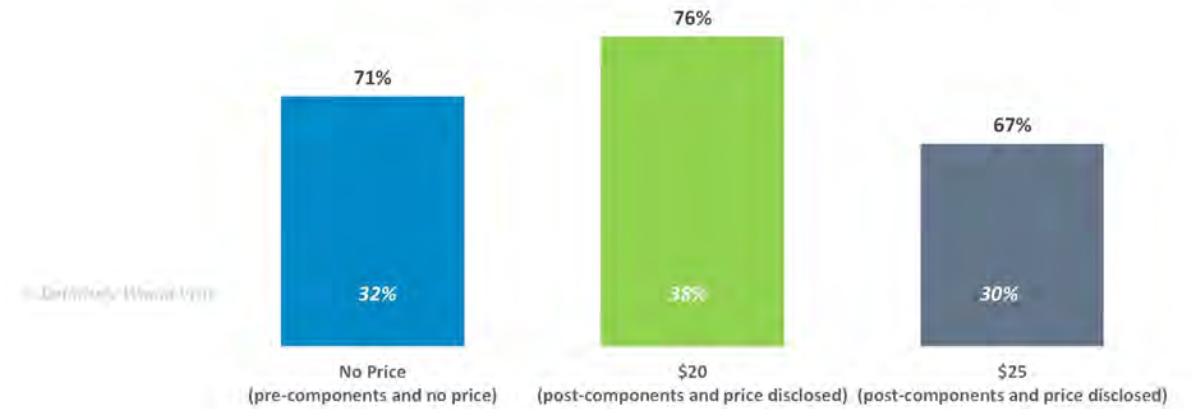
Amount of Time You Would Spend at this New Science Center



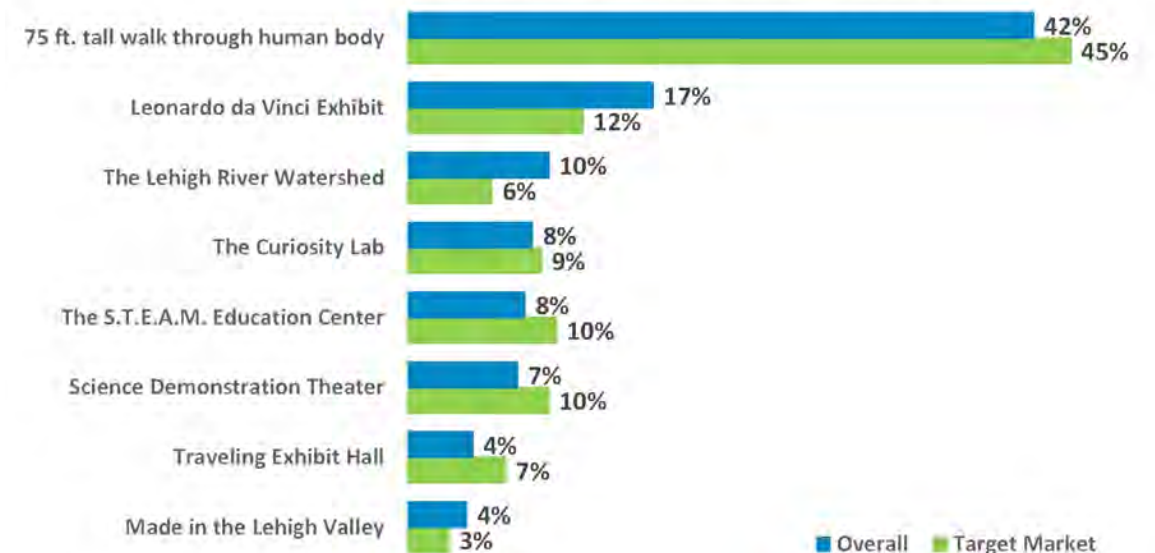
MARKET RESEARCH RESULTS

- The sample was divided into two subsets to test price sensitivity at two price levels: \$20 and \$25
- Consumer reaction was positive at the \$20 price level and showed signs of elasticity at \$25
- Each of the major exhibit components was tested for consumer appeal
- When asked to choose the one exhibit most appealing, the Human Body exhibit was an overwhelming favorite
- Positive verbatim comments outnumbered negative verbatim comments by a 3.6:1 margin
- Negative comments focused on cost and travel distance
- Downtown Allentown was cited as a negative factor by only one of the 800 respondents

Intent to Visit Comparison - % Probably/Definitely Would Visit (Top 2 Box)



Component Most Likely to Experience – Choose 1



ATTENDANCE POTENTIAL ANALYSIS

- H2R prepared an analysis of attendance potential based on consumer research results and its database of attendance at similar attractions
- The attendance potential analysis includes three market segments:
 - Primary Market (within 25 miles)
 - Secondary Market (26-50 miles)
 - Tertiary/Tourist Market (51-100 miles + tourists)
- The forecast annual attendance for a stabilized year ranged from a low of 450,000 to a high of 520,000 with a mid-range of 485,000
- For business planning purposes, the mid-range forecast was reduced by approximately 20%, to 400,000 total annual visitors



	Market Penetration	Attendance	% of Attendance
Core Market (0-25 miles)	8.2%	100,421	21%
Primary Market (26-50 miles)	5.0%	285,264	59%
Total Resident Market Area	5.6%	385,686	80%
Tertiary (51-100 miles) & Tourist Markets	0.4%	99,315	20%
Total Projection	1.5%	485,000	100%

**Attendance is projected to stabilize in year 3 of operation*

BUSINESS PLAN - MAJOR ASSUMPTIONS

- **Stabilized Year** – Created for a stabilized year of operation – often the third year after opening
- **No Debt Service from Operations** – The full capital cost and debt service is covered by funds raised through the capital campaign
- **Fully Built-out Facility** – The full facility as shown is built, outfitted and ready at opening
- **New Events Business** – A major new facility rental business hosts 75 private events annually
- **Market Rate Admission Prices** – An adult ticket price of \$21.00 (2020 \$) is charged which is comparable to prices charged by competitive attractions
- **Includes all Planned Science Center Operations** – Includes anticipated revenues and expenses for the new downtown Allentown public operation as well as STEAM Team outreach educational programs
- **Annual Operating Reserve** - \$400,000 budgeted annually to establish capital and operating reserves
- **Major Traveling Exhibition Program** - More than \$700,000 has been budgeted annually to rent blockbuster-level special exhibitions

Stabilized Year Pro-Forma Income Statement

Annual Visitation Range (with programs)	375,000	400,000	425,000
Earned Revenue – Facility	\$7,381,006	\$7,805,725	\$8,230,444
Earned Revenue – STEAM Team	\$260,000	\$260,000	\$260,000
Contributed Revenue	\$1,400,000	\$1,400,000	\$1,400,000
Total Revenue	\$9,041,006	\$9,465,725	\$9,890,444
Payroll	\$4,854,810	\$4,866,755	\$4,878,701
Cash Expenses	\$3,075,452	\$3,113,527	\$3,151,603
Total Expense	\$7,930,262	\$7,980,283	\$8,030,303
EBITDA	\$1,110,744	\$1,485,442	\$1,860,141
Reserves	\$400,000	\$400,000	\$400,000
EBITDA net of Reserves	\$710,744	\$1,085,442	\$1,460,141

BUSINESS PLAN - ADDITIONAL CONSIDERATIONS

- Built on an assumed annual attendance of 400,000 visitors, 380,000 ticketed visitors and 20,000 program participants
- Sensitivities were tested at 375,000 and 425,000 visitors
- Break-even analysis identified a minimum breakeven annual attendance level of 260,000
- Philanthropic giving levels were assumed to remain consistent with current performance, approximately \$1.4 MM annually
- One-third of philanthropy was assigned to STEAM team outreach, two-thirds of philanthropy was assigned to public operations
- Attendance-driven earned revenues and non-attendance-driven earned revenues were evaluated independently
- A position-by-position staff roster was developed to support payroll estimates

Break Even Analysis

Annual Attendance Needed to Breakeven (Non-program visitation)	260,000
EBITDA from Facility	(\$280,000)
+ Net Allocation from Philanthropy	\$680,000
- Reserves	(\$400,000)
Facility EBITDA Less Reserves	\$-0-
EBITDA from STEAM Team	(\$340,000)
+ Net Allocation from Philanthropy	\$340,000
STEAM Team EBITDA	\$-0-
EBITDA – Total Operation	\$-0-

Staffing and Payroll Forecast

Staffing	Full Time	Part Time	Total
Operations	38	17	55
STEAM Team	8	4	12
Philanthropy	4	0	4
Total FTE's	50	21	71
Total Labor Cost			\$4,854,810

Per Capita Spending Forecast

Spending Category	Amount
General Admission	\$14.58
Special Exhibits	\$2.25
Retail Sales	\$2.35
Food and Beverage	\$2.85
Total	\$22.02

CAPITAL PROJECT COST ASSUMPTIONS

- Core and Shell cost forecast has been escalated 6% to 2022 dollars, and also includes a 5% design contingency and a 10% construction contingency
- Site cost has been included in a Term Sheet negotiated with the current owner of the property
- Exhibit cost forecast was developed based on a detailed analysis of similar exhibit projects completed within other science centers during the past year
- Exhibit cost budgets range from \$300 - \$600 per SF and include exhibit design as well as construction
- Design cost forecast is in-line with the fee negotiated with HGA last year
- FF&E forecast includes all non-exhibit furnishings
- Pre-Opening Expenses include all staff time, consulting time, and pre-opening marketing expense

Uses of Funds

Capital Budget Forecast (\$ Millions)

Cost Category	Amount
Core and Shell	\$30.8
Site	\$1.6
Exhibits	\$15.0
FF&E	\$1.5
Design	\$3.3
Owner's Representative	\$0.5
Pre-Opening	\$5.3
Total	\$58.0

FUNDRAISING FORECAST

- Projected funds to be raised from all public and private sources totals \$65.1 MM
- \$58.0 MM will be used for the capital costs of the project, and \$7.1 million will be used for financing costs of the project
- Assumes that \$45 MM, or approximately 70% of the funding will come from public sources
- We have already secured, or are highly confident of \$30 MM in funding, approximately 46% of the overall goal
- A campaign to raise \$20 MM in private funding for the project is in its early planning stages, to be launched at an appropriate time
- Discussions underway with 6 - 8 prospective private donors could yield up to \$10 - \$13 million within 90 days of commencing a private campaign

Sources of Funds

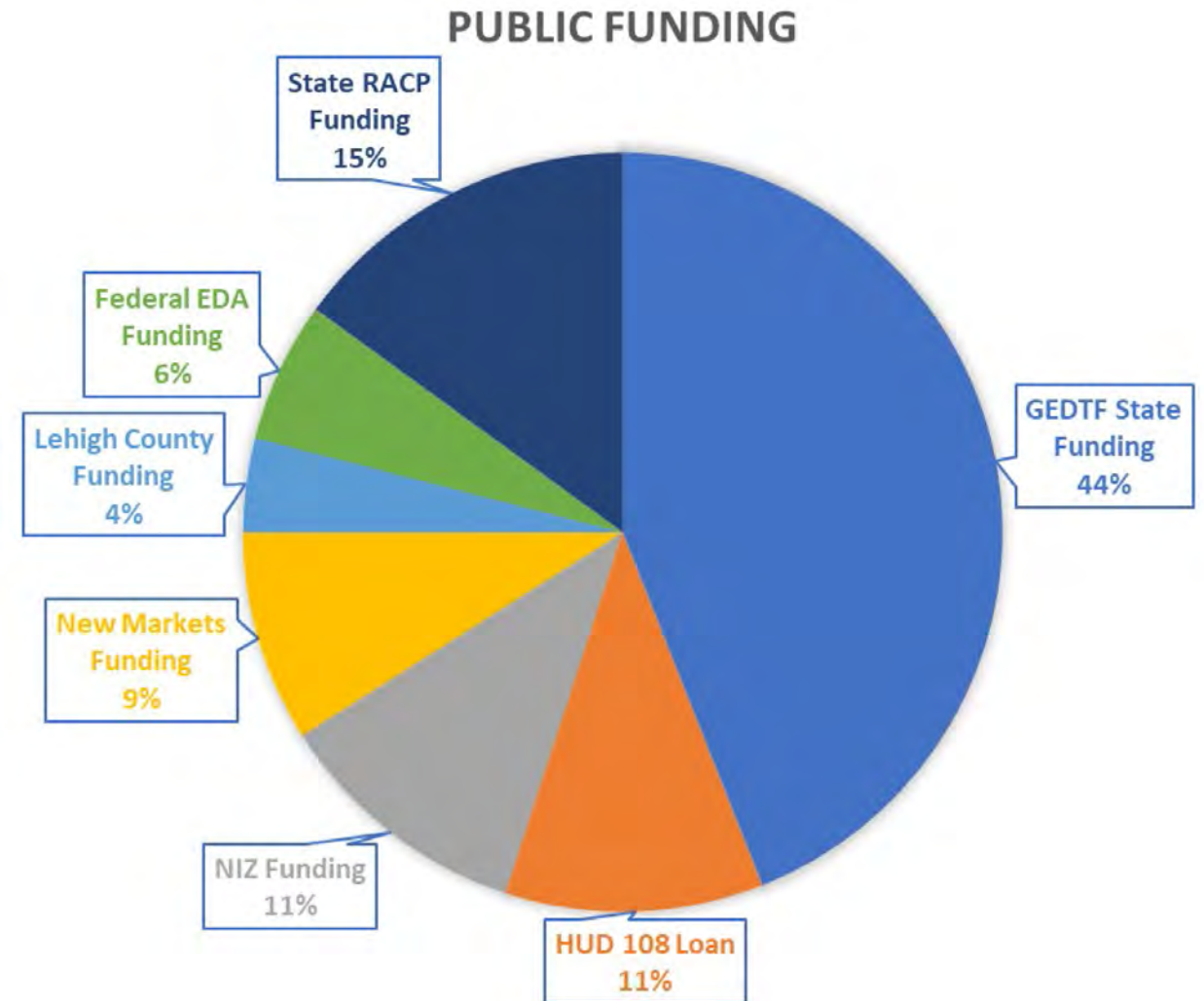
Capital Campaign Revenue Forecast (\$ Millions)

Revenue Source	Planning Phase Raised	Capital Campaign Goal	Secured & Confident To Date	Gifts In Discussion Target Date - Fall 2020
State	\$0.6	\$28.0	\$20.0	---
City	\$0.1	\$5.0	\$5.0	---
County	\$0.3	\$2.0	---	---
NIZ/ANIZDA	\$0.0	\$5.0	\$4.0	---
Federal	\$0.1	\$5.0	---	---
Total Public	\$1.2	\$45.0	\$29.0	---
Corporate	\$0.5	\$13.0	---	\$8.0 - \$10.0
Individual	\$1.0	\$7.0	\$0.9	\$2.0 - \$3.0
Total Private	\$1.5	\$20.0	\$0.9	\$10.0 - \$13.0
Total – All Sources*	\$2.6	\$65.1	\$30.0	\$40.0 - \$43.0
Percent of Goal			46%	61% - 66%

* Includes \$100,000 carry-forward from Planning Phase

PUBLIC FUNDRAISING ACTION PLAN

- **Financing initial installment of \$20 million GEDTF state funding**
Target closing date: June 2020
- **\$5 million Section 108 City of Allentown HUD Loan**
Target approval date: September 2020
- **\$4 million NIZ Financing**
Target approval date: December 2020
- **\$5 - \$8 million State RACP**
Target award date: December 2020
- **\$4 million in New Markets Tax Credits**
Target award date: June 2021
- **\$2 million minimum in funding from Lehigh County**
Target approval date: June 2021
- **\$2.5 million in Federal EDA**
Target award date: March 2021



PRIVATE FUNDRAISING

GG+A RECOMMENDATIONS

- Adopt a staged approach to establishing a campaign goal
- Secure the top 6 – 8 individual and corporate gifts that can be publicly announced to build confidence in project
- Ask trustees to make an aspirational campaign gift during the early phase of the private campaign
- Make significant changes to the Science Center’s Development Program, increasing its focus on Major and Leadership Gifts
- Invest in staff to support increased funding efforts for the campaign
- Expand Board engagement in the fundraising process
- Cultivate and broaden the prospect pool

RECENT ASSESMENTS

Private Campaign – Stretch Goal Potential

Components of Fundraising Assessment	GG+A Mid-Range Assessment February 2020	DSC Updated Assessment March 2020
Interviewed Prospects (37)	\$9,500,000	\$11,900,000
Non-Interviewed Prospects (60)	\$7,400,000	\$7,100,000
Forecast Total	\$16,900,000	\$19,000,000
Campaign Commitments to Date	\$1,000,000	\$1,000,000
Prospects Not on List – Low Estimate	---	\$1,800,000
Total	\$17,900,000	\$21,800,000

Private campaign target goal: \$20 million

PRIVATE FUNDRAISING

NEAR TERM PRIORITIES

- **Hire Director of Communications, develop communications plan, prepare campaign materials**
Target Completion Date: July 2020
- **Hire seasoned capital campaign fundraiser to work with the CEO and Board to secure 50 private gifts**
Target Completion Date: August 2020
- **Establish leadership for capital campaign including campaign chair**
Target Completion Date: September 2020
- **Secure top 6-8 individual and corporate gifts**
Target Completion Date: December 2020
- **Secure campaign commitments from all board members**
Target Completion Date: December 2020

Corporate Sponsorship Naming Opportunities

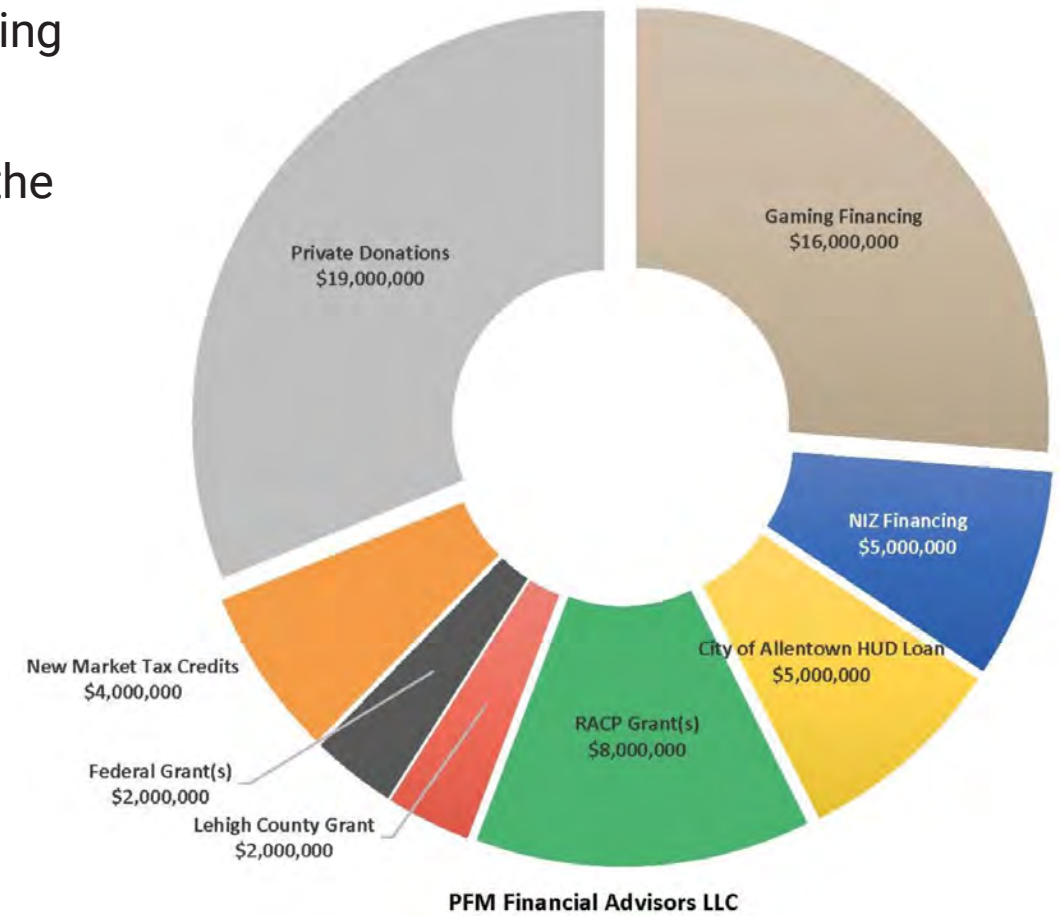
Sponsorship Opportunity	Number of Prospects	Available Sponsorships	Potential Revenue (\$ Millions)
Title/Building	1	1	\$5.0
My Body Exhibit Title	1	1	\$3.0 - \$4.0
Manufacturing Exhibit Title	4	1	\$1.5 - \$2.5
Lehigh River Exhibit Title	2+	1	\$1.5 - \$2.0
Curiosity Lab Exhibit Title	2+	1	\$1.0 - \$1.5
Health Programming	2	1	\$0.50
Lighting Experience	1	1	\$0.50
My Body Secondary Sponsors	4+	3 - 4	\$0.25 - \$0.50 each
Manufacturing Secondary Sponsors	6	3 - 4	\$0.25 - \$0.50 each
Manufacturing Exhibit Experiences	8+	4 - 5	\$0.125 - \$0.25 each
Demonstration Theater Sponsor	2+	1	\$0.50 - \$1.0
Potential Range	33+	18 - 21	\$15.5 - \$21.0

Individual/Foundation Naming Opportunities

Sponsorship Opportunity	Number of Prospects	Available Sponsorships	Potential Revenue (\$ Millions)
STEAM Center	2	1	\$2.0 - \$2.5
Courtyard	1	1	\$1.5
Exhibit Galleries – 2 nd Floor	8	1	\$1.0
Temporary Exhibits Gallery	---	1	\$1.0
Lobby	5	1	\$0.50 - \$0.75
Demonstration Theater	---	1	\$0.50
Plaza	---	1	\$0.50
Leonardo Experience	9	1	\$0.25
Health Exhibits Programs	1	1	\$0.20
Workshop/Lab Spaces	23	4	\$0.10 - \$0.15 each
Exhibits Clusters	Multiple	Multiple	\$0.10 - \$0.15 each
Potential Range	49+	13+	\$8.65 - \$9.60

FINANCING PLAN

- PFM Financial Advisors has developed a plan to secure the financing needed to support the cash-flow needs of the capital project
- The plan envisions separate financings for major components of the funding plan including:
 - State of PA GEDTF funding
 - NIZ funding
 - New Markets Tax Credit funding
- The plan envisions an additional aggregated financing to bridge private gifts and public grants
- Financing of a portion of the \$20 MM state commitment is being prepared for closing during June of 2020 to fund pre-construction costs
- Financing commitments for the entire cash-flow needs of the project will need to be in place prior to groundbreaking
- Introductory meetings with banks were held during February
- Bank proposals for funding the GEDTF component have been received



LEAD-UP TO GROUND BREAKING

PROJECT MILESTONES – 2020

APRIL – JUNE 2020

- Secure Initial GEDTF Financing
- Contract with Architect
- Execute Agreement of Sale for Site

JULY – SEPTEMBER 2020

- Establish Capital Campaign Committee
- Prepare Capital Campaign Communications Plan
- Secure Section 108 HUD Financing
- Begin Architectural Design
- Begin Exhibit Design
- Establish Local Exhibit Development Teams

OCTOBER – DECEMBER 2020

- Secure Lead Private Gifts
- Secure RACP Funding
- Secure ANIZDA Funding
- Secure Board Capital Campaign Commitments
- Complete Concept Design for Exhibits
- Execute Development Agreement with City of Allentown

PROJECT MILESTONES – 2021

JANUARY – MARCH 2021

- Secure EDA Funding
- Secure Financing for HUD commitment
- Design documents to be 60% complete
- Secure Financing for ANIZDA commitment

APRIL – JUNE 2021

- Secure NMTC commitment from CDE's
- Secure Lehigh County funding
- Achieve 100% of \$45 MM public fundraising goal
- Execute agreement with Construction Manager
- Finalize construction documents
- Finalize design documents for all exhibits
- Secure all financing required for construction

JULY – SEPTEMBER 2021

- Secure all permits and approvals for construction
- Award contracts for exhibit construction
- Ground Breaking (September)
- Achieve 75% of \$20 MM private fundraising goal

PROJECT TIMELINE*

Phases	Start Date	End Date	2020				2021				2022				2023			
			Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Pre-Design Contracting, Fundraising and Financing	04/01/20	06/30/20																
Architectural Design and Construction Documents	06/01/20	08/31/21																
Construction	09/01/21	02/28/23																
Exhibit Installation and Outfitting	03/01/23	05/31/23																
Staff Training/Preview Events	06/01/23	06/30/23																
Public Opening	07/01/23	07/01/23																

*This timeline assumes no delays between phases, which may be necessitated by fundraising progress.

- **Architectural Design/Documents – 14 months**
July 2020 – August 2021
- **Exhibit Design/Documents – 15 months**
July 2020 – September 2021
- **Facility Construction – 18 months**
September 2021 – February 2023
- **Exhibit Construction – 14 months**
January 2022 – February 2023
- **Exhibit Installation – 3 months**
March 2023 – May 2023
- **Staff Training and Preview Events – 1 month**
June 2023
- **Public Opening**
July 2023



**IMPLICATIONS
FOR MOVING
FORWARD
TODAY**

- A minimum of \$2 MM of the \$20 MM of GEDTF funding will be financed to support the upfront cash needs of the project
- The Science Center will communicate plans to begin the design development phase of the project to select prospective donors and key officials
- Exact cost of the project will not be announced
- Exact timing of the opening will not be announced
- Architect will be contracted to design the new facility upon receipt of state funds
- A letter of intent will be signed with the construction manager
- Exhibit Concept Design will begin upon receipt of state funds
- Additional public funding will be secured (NIZ, Section 108, RACP)
- Private campaign planning will proceed, including identification of campaign leadership and development of a campaign communications plan



**KEY
FUTURE
DECISION
POINTS**

Fall 2020 – Funded Options

- Terrace
- STEAM Learning Center Enlargement
- Structure for Future Fourth Floor

Spring 2021*

- Final Cost of Project Determined
- Financing to Support Construction
- Contract with Construction Manager
- Close on purchase of site

Fall 2022*

- Opening Date Set
- Final Project Adjustments

*Depending upon progress of fundraising campaign



CHALLENGES AND UPSIDES TO CONSIDER

CHALLENGES

- Securing major private commitments soon after a capital campaign is launched will be critical to the overall success of the project
- The concept design at 65,000 SF represents the absolute minimum footprint required to support a three-hour dwell time
- Additional analysis will be needed during design to ensure that the facility can accommodate peak crowds
- Parking especially on weekdays will need to be carefully planned and coordinated with the City, the Parking Authority, and adjacent property owners

UPSIDES

- This project has the full support of key elected officials and community leaders, whose influence can be leveraged as needed as the project moves forward
- Timing of the opening of the project should mesh well with plans for further development of the NIZ, to the east and west of the site, as well as plans for additional parking infrastructure
- Should the Science Center elect to sell its existing facility, proceeds from the sale will provide a hedge against unforeseen events, bolster the balance sheet, and may lower financing costs



KEYS TO SUCCESS

- Advance fundraising progress well ahead of key decision points
- Pursue continued cost savings aggressively
- Create a truly special and compelling programming experience
- Assemble an experienced, dedicated management team for every aspect of the project
- Develop clear and distinct focused teams to support both the expansion effort and the ongoing operation – these teams will diverge at first, then re-integrate as the opening approaches
- Every board member should consider how they can support the project, and articulate a role that they will play to contribute to its overall success



**PROPOSED
BOARD
RESOLUTION**

Resolved that the Da Vinci Science Center will proceed with the development of a new Science Center facility in Downtown Allentown consistent with the Master Plan.

The board hereby authorizes the following:

- Authorize CEO to secure a minimum of \$2 MM in financing for the project supported by \$20 million GEDTF funding
- Authorize CEO to proceed with architectural and exhibit design and other planning needs to get the project to a shovel-ready status upon receipt of state funds
- Authorize CEO to continue pursuing public funding to support the project
- Approve budget showing all planned expenditures and sources of funding through June 2021
- Approve reimbursement to DSC of expenses incurred since September 2019 that are eligible for GEDTF funding



**KEY
MESSAGES
TO DONORS
AND KEY
OFFICIALS**

- The Board of Trustees of the Da Vinci Science Center has approved moving forward with development of a new Science Center facility in Downtown Allentown
- The Science Center has hired an architect to prepare construction documents for the facility, which will be more than twice the size of its existing facility
- The final cost of the project will be determined at the conclusion of the Design Phase, which will take approximately 14 months to complete
- An opening date for the new facility has not been determined at this time, it will take a minimum of 3 1/2 years to design and construct the facility
- Alvin H. Butz has been chosen as the Construction Manager for the project, and will assist in the Design Phase

Operational Business plan

Da Vinci Science Center Downtown Allentown





This plan was prepared jointly by the Da Vinci Science Center and EMS Consulting. Key individuals involved in the preparation of this plan were Maureen Michael, CAO/ CFO of the Da Vinci Science Center, Brian Strohecker, Director of Operations of the Da Vinci Science Center and Joseph Moore, Principal with EMS Consulting. Ms. Michael has served for the past four years as Chief Administrative Officer and Chief Financial Officer at the Da Vinci Science Center. Ms. Michael previously worked for 25 years in executive financial roles at Air Products and Chemicals headquartered in Allentown, PA; she holds a Master of Business Administration degree from the Wharton School at the University of Pennsylvania. Mr. Strohecker has been with the Da Vinci Science Center for five years in various capacities. He has nearly 20 years of diverse experience in marketing and sales, e-commerce, and product development in the for-profit and not-for-profit industries, including positions at the Philadelphia Zoo, the Walt Disney Internet Group, and the Mighty Ducks of Anaheim National Hockey League team; he holds a bachelor's degree in Sports and Entertainment Management and Economics from the University of South Carolina. Mr. Moore worked for 15 years in various roles at The Franklin Institute Science Museum in Philadelphia serving as Executive Vice President for Programs and Marketing and as Interim President; he holds a Master of Business Administration degree from Rutgers University.

The plan was developed to assess the ongoing financial viability of the planned Da Vinci Science Center project in Allentown, PA. A "bottom-up" approach was utilized to develop individual components of the plan. This involved preparing detailed projections for revenues and expenses anticipated in the Science Center operation. Spreadsheets for each component of the business plan are provided in Appendix I of this report. All projections are based in 2020 dollars. Additionally, the following major assumptions were made in preparing the plan:

Major Assumptions

1. **Stabilized Year** – The plan was developed assuming a stabilized year of operation, often characterized as the 3rd year of operation following opening.
2. **No Payment of Debt from Operations** – It was assumed that the entire capital cost (including debt service) would be raised externally, and that no operating cash flow will be required to service long-term debt.
3. **Fully Built-out Facility** – The plan assumes that all of the elements of the Science Center as detailed in the Facilities and Exhibits Master Plan will be operational during the stabilized year of operation.
4. **Events Business** – It is assumed that the facility will be constructed and staffed to accommodate a professionally managed events business for both corporate and private events; and that a first-class food service operator will be retained for the provision of catering services.
5. **Market Pricing** – The plan assumes a full-price general admission ticket of \$21.00. This price is in the lower end of the range that was market tested with consumers during the master plan period and is comparable to prices charged by competing local family attractions.
6. **Includes All Science Center Operations** – The business plan includes a forecast of financial performance for the Science Center operation in addition to revenue, philanthropy and expenses related to educational outreach and professional development programs. The plan does not include revenues, philanthropy or expenses related to maintaining other ticketed or non-ticketed facilities.

Additional Considerations

1. **Sensitivities** – Revenue and expense projections were tested for a base-year comprehensive participation of 400,000 (380,000 daily visitors and 20,000 enrolled in reserved programs) with sensitivity analysis prepared for lower participation levels of 375,000 and 425,000. These projections represent a conservative assumption of participation compared to the external marketing study's projection of annual comprehensive participation in a stabilized year of 450,000 to 520,000.
2. **Fixed and Variable Costs** – Both fixed and variable (attendance-based) costs were identified and assessed within the report.
3. **Philanthropy Impact** – The business plan presents the financial performance of the Science Center operation with philanthropic contributions and associated fundraising expenses comparable to current levels realized with 1/3 of contributions and expenses allocated to support outreach activities and the remainder allocated to support facility operations and programming.
4. **Segregated Earned Revenue Analysis** – Attendance-driven earned revenues were estimated and evaluated separately from non-attendance-driven earned revenues.
5. **Staff Roster** – A complete staff roster was developed, by position, with salaries projected taking into account industry comparables and local market rates.
6. **Basis** – All projections are based in 2020 dollars.

I. Earned Revenue

Earned revenue represents the amount of direct spending that is projected from daily visitors to the Science Center as well as spending from specialized audiences such as rental-events customers and education program participants.

Attendance-Driven Earned Revenue

The largest driver of earned revenue is spending from visitors to the Science Center during normal operating hours. It is anticipated that between 60% and 70% of total revenues will be generated from daily visitors. For the purposes of this analysis, admissions and special exhibition revenues are shown on a gross-revenue basis while revenues from additional experiences such as food and retail purchases are shown on a net (after commission) basis. The chart below shows anticipated earned

revenues during a stabilized year of operations at participation levels of 375,000, 400,000 and 425,000. For the purposes of this analysis, it was assumed that both the retail and food service operations (including catering) would be outsourced to a professional operator under an arrangement in which the Science Center would receive commissions on a percentage-of-sales basis.

Annual Participation*	375,000	%**	400,000	%**	425,000	%**
Admissions / Members	\$4,915,419	54.4%	\$5,261,575	55.6%	\$5,607,731	56.7%
Special Exhibitions	796,975	8.8%	853,100	9.0%	909,225	9.2%
Food Service (Net)	151,763	1.7%	162,450	1.7%	173,138	1.8%
Retail Sales (Net)	166,850	1.8%	178,600	1.9%	190,350	1.9%
Subtotal	\$6,031,006	66.7%	\$6,455,725	68.2%	\$6,880,444	69.6%

* Annual Participation includes 20,000 participants of reserved programs such as summer camps and science clubs. The revenue for these programs is captured in non-attendance-driven earned revenue shown on page 6.

** Percentage of Total Revenue

Admissions revenue from daily visitors and members are the single largest source of earned revenue. The charts below show the assumptions made for audience composition and pricing in order to arrive at the revenue projections.

General Admission Pricing				Membership Pricing			
Category	% Audience	Price GA	Sp. Exhib	Category	Price	%Sold	#Sold
Adult	24.0%	\$21.00	\$6.00	Individual	\$60.00	5.0%	562
Child	16.0%	\$18.00	\$5.00	Dual	\$85.00	10.0%	1,123
Group	5.0%	\$15.00	\$5.00	Senior	\$110.00	10.0%	1,123
School	15.0%	\$13.00	\$4.00	Family	\$120.00	52.5%	5,896
Member	35.0%	\$11.30	\$4.00	Family Plus	\$185.00	22.5%	2,527
Complimentary	5.0%	\$0.00	\$0.00				
Average	100.0%	\$14.58	\$4.49	Average	\$127.13	100.0%	11,231

Per-capita revenue was evaluated in order to assess the amount of per-visitor spending required to achieve the projections in the plan. The chart to the right shows per-capita out-of-pocket spending for an average daily visitor in the forecast.

Per-Capita Spending Forecast

General Admission	\$14.58
Special Exhibits	\$2.25
Retail Sales	\$2.35
Food and Beverage	\$2.85
Total	\$22.02

Non-Attendance-Driven Earned Revenue

Revenue and Expenses from business operations that are focused on specialized audiences and are separate from the ongoing public operation were evaluated and have been forecast to provide a substantial amount of net income to the operation. The main non-attendance-driven business elements included Facility Rentals, Catering, and Reserved Programs.

Reserved programs are educational programs ranging from day-camps and overnight experiences to multi-week science clubs, birthday parties and weekend workshops. The forecast assumes 20,000 annual participants for these programs.

The facility rentals program was forecast to host 75 private events annually, with 50 being corporate-hosted events and 25 being private events. A significant catering business operation is also forecast in the business plan. The catering business will primarily support the facility rental business, but also will support the Science Center's hospitality needs as well as other special events. Combined, the facility rental and catering operations are forecast to deliver more than \$750,000 in revenue less commissions to the Science Center.

The chart below provides anticipated revenue from non-attendance-driven business operations.

Revenue from Non-Attendance-Driven Business Operations

Reserved Programs	\$600,000
Facility Rental / Catering (DSC Share)*	\$750,000
<i>*Facility Rental & Catering (Gross)</i>	<i>\$1,690,476</i>

II. Contributed Revenue

Annual unrestricted revenue from contributed sources was forecast on an enterprise-wide basis for the entire Da Vinci Science Center operation including the Science Center's STEAM Team outreach programs. A conservative estimate of \$1,400,000, comparable to the amount currently raised by the Science Center, was included in the forecast. (\$933,000 of this total amount is assumed to support the facility operation with the balance allocated to STEAM Team Outreach programs.) Expectations are that after a capital campaign, fundraising efforts will yield results above the \$1,400,000 level currently raised, however this additional expected benefit was not included in the forecast.

III. Total Revenue

The table below shows total earned and contributed revenue forecasts at annual participation levels of 375,000, 400,000 and 425,000 visitors and program attendees.

	375000	400000	425000
Earned - Attendance Driven			
Admissions / Members	4,915,419	5,261,575	5,607,731
Special Exhibitions	796,975	853,100	909,225
Food Service (DSC Share)	151,763	162,450	173,138
Retail Sales (DSC Share)	166,850	178,600	190,350
Subtotal	6,031,006	6,455,725	6,880,444
Earned - Other			
Events (DSC Share)	750,000	750,000	750,000
Reserved Programs	600,000	600,000	600,000
Paid Outreach	260,000	260,000	260,000
Subtotal	1,610,000	1,610,000	1,610,000
Total Earned	7,641,006	8,065,725	8,490,444
Contributions	1,400,000	1,400,000	1,400,000
Total Revenue	9,041,006	9,465,725	9,890,444

Expenses

Staffing

The operation of Da Vinci Science City is expected to be highly staff intensive, with more than 50% of operating expenses attributed to staff payroll and benefits. This is typical for a science center operation. The chart below shows anticipated headcount and payroll expenses required to support annual participation of 400,000 visitors and program

attendees, along with projected payroll and benefits costs. Salaries used in this analysis were derived from industry data. A complete roster of positions and salaries used in this forecast is provided in Appendix I.

It should be noted that, while there are some anticipated variable staff costs, staffing expenses are anticipated to be largely fixed.

Summary of Staffing Requirements

	Full Time	Part Time	Total
Operations	38	23	61
STEAM Team	8	4	12
Philanthropy	4	0	4
Total FTE's	50	27	77
Total Labor Cost			\$4,866,755

Other Expenses

Other expenses were compiled using a variety of techniques including quotes from existing providers of goods and services to the existing Allentown operation, forecasts based on the hourly cost of certain services and the total number of operating and non-operating hours projected for the operation, and industry data.

Expenses were organized into major categories: Occupancy; Exhibit Rental; Reserved Program Supplies; Event Costs, Other Exhibit Expenses; Ticketing System Fees and Expenses; Transaction Fees and Other G&A. The chart below shows total anticipated non-staffing costs for annual visitor participation levels of 375,000, 400,000 and 425,000 guests.

Total Non-Staffing Expenses

Annual Participants	375,000	% of Rev	400,000	% of Rev	425,000	% of Rev
Occupancy	474,740	5.3%	476,471	5.0%	478,202	4.8%
Exhibit Rental	719,546	8.0%	727,965	7.7%	736,384	7.4%
Reserved Program Supplies/Fees	163,609	1.8%	163,609	1.7%	163,609	1.7%
Event Costs	112,500	1.2%	112,500	1.2%	112,500	1.1%
Other Exhibit Expense	287,760	3.2%	287,760	3.0%	287,760	2.9%
Promotion	626,271	6.9%	643,579	6.8%	660,887	6.7%
Admission System/Fees	241,025	0.4%	251,643	0.4%	262,261	0.4%
Other G&A	450,000	2.3%	450,000	2.3%	450,000	2.3%
Subtotal	3,450,452	38.2%	3,513,527	37.1%	3,576,603	36.2%
Operating Reserve	150,000	1.7%	150,000	1.6%	150,000	1.5%
Capital Reserve	250,000	2.8%	250,000	2.6%	250,000	2.5%
Subtotal	400,000	4.4%	400,000	4.2%	400,000	4.0%

Benchmarking

As part of the benchmarking effort conducted during the preparation of the business plan, the financial performance of an existing science center operating in a major metropolitan market in the Mid-Atlantic region was evaluated. Three years of

performance were studied in depth in order to compare the operations of an existing, similar venue with the forecast operation of the Da Vinci Science Center. Some of the comparative statistics developed are shown in the chart below.



The admission pricing forecast for the Da Vinci Science Center is comparable to the existing science center studied. Profit center performance, while less than that of the benchmark existing operation, is believed to represent a reasonable forecast given the start-up nature of the Science City operation. Education and program fees also are forecast to be less than the comparable

organization studied. This is due mainly to the relatively smaller number of people who live in the immediate vicinity of Science City and are likely to take advantage of these programs. Both occupancy per square foot and forecast EBITDA as a percentage of total revenue are forecast to be similar to those of the comparable organization studied.



V. Forecast Profit and Loss Annual Income Statement

A pro-forma income statement was prepared using projected revenues and expenses for a stabilized year of operations with 400,000 annual participants. A sensitivity analysis was then conducted, utilizing projected revenues and expenses based on 375,000 and 425,000 annual participants. The forecast assumes an annual allowance for ongoing capital spending of \$250,000 along with an operating reserve of \$150,000 to allow

for operating cash-flow requirements due to seasonal fluctuations in attendance and revenues as well as anticipated expenses and business interruptions.

The operation is fully sustainable at sustained annual attendance level of 400,000 participants assuming continued levels of philanthropic support currently realized by the organization. The breakeven level of annual participants required for the operation to cover the capital spending and operating reserve is 258,000.

Pro-forma Income Statement

		Participation:	375,000	400,000	425,000
REVENUE					
Earned - Attendance Driven					
	Admissions / Members		4,915,419	5,261,575	5,607,731
	Special Exhibitions		796,975	853,100	909,225
	Food Service (DSC Share)		151,763	162,450	173,138
	Retail Sales (DSC Share)		166,850	178,600	190,350
	Sub-Total		6,031,006	6,455,725	6,880,444
Earned - Other					
	Events (DSC Share)		750,000	750,000	750,000
	Reserved Programs - In Building		600,000	600,000	600,000
	STEAM TEAM Programs		260,000	260,000	260,000
	Sub-Total		1,610,000	1,610,000	1,610,000
Total Earned			7,641,006	8,065,725	8,490,444
Total Contributions			1,400,000	1,400,000	1,400,000
Total Revenue			9,041,006	9,465,725	9,890,444
EXPENSES					
	Salaries and Benefits		4,854,810	4,866,755	4,878,701
	Occupancy		474,740	476,471	478,202
	Exhibit Rental		719,546	727,965	736,384
	Reserved Program Supplies/Fees		163,609	163,609	163,609
	Event Costs		112,500	112,500	112,500
	Other Exhibit Expense		287,760	287,760	287,760
	Promotion		626,271	643,579	660,887
	Admission System/Fees		241,025	251,643	262,261
	Other G&A		450,000	450,000	450,000
Total Expenses			7,930,262	7,980,283	8,030,303
EBITDA			1,110,744	1,485,442	1,860,141
RESERVE REQUIREMENTS					
	Operating		150,000	150,000	150,000
	Capital		250,000	250,000	250,000
Total Reserves			400,000	400,000	400,000
EBITDA less Reserves			710,744	1,085,442	1,460,141

VI. Conclusions and Recommendations

The following conclusions and recommendations are provided as a result of the development of this plan.

1. The Project is sustainable at annual participation levels of 375,000 participants or more.

Provided that the project is built-out as currently envisioned in the Facilities and Exhibits Master Plan with no debt service anticipated from operations, the Da Vinci Science Center's operation is projected to be viable with current levels of annual philanthropic support at annual participation levels of 375,000 or more participants.

2. Annual attendance levels of 258,000 participants cannot sustain the operation long-term using this business model.

The project can withstand periods with annual attendance levels of 258,000 participants; however, it cannot be sustained long-term at these attendance levels without significantly greater fundraising and/or significantly reduced operating costs.

3. Annual visitor attendance will drive financial sustainability.

Annual visitor attendance is the most important driver of revenue and long-term sustainability. Considerable resources will need to be devoted to driving attendance and delivering a superior visitor experience that will drive repeat visitation.

4. Operating costs are largely fixed.

Operating expenses are mostly fixed, with staffing being the largest component of cost overall. Given this heavily fixed-cost model, careful attention will need to be paid to control of overhead expenses.

5. Non-attendance-driven business operations are an important component of the business model.

Non-attendance-driven revenues, especially a robust events business, will contribute significantly to the financial viability of the enterprise.



Science Catalyst Society

Government, Corporate, and Foundation Members

**\$23
MM**



Individual Members:

Vince and Michelle
Sorgi

W. Beall Fowler

Steven and Jeanne
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Laurene Ryan

Frank and Yvonne
Schweighardt

Marshall and Kay
Wolff

Thank You!



H2R MARKET RESEARCH

*Reveal Your Customer's
Full Experience*

2020 Market Research Based Analysis of Attendance Potential

Prepared by H2R Market Research for the Downtown Allentown Da Vinci Science Center Project
Delivered January 2020

This Project was financed in part by a grant from the Commonwealth of Pennsylvania, Department of Community and Economic Development.

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Executive Summary

Executive Summary

Purpose of Study and Methodological Overview

H2R Market Research (H2R) conducted extensive research and analysis, incorporated both primary and secondary research as well as quantitative and qualitative methods to ascertain the projected attendance potential for the Da Vinci Science Center's new science center project in Allentown, PA. Throughout this analysis, the new science center will be referred to as the new Science Center.

The purpose of this study was to analyze the attendance potential of the new Science Center in a manner that will inform the Master Planning process.

H2R studied the potential of the following:

- The market potential of the new Science Center
- Attendance potential and visitation characteristics
- Stabilized year projections

Executive Summary

- The new Da Vinci Science Center concept will be located in downtown Allentown, PA. The new facility is expected to have a footprint of 70,000 to 75,000 square feet.
- The resident population living within 50 miles of downtown Allentown is 6.9 million. The Core Market Area (0-25 mile) is 1.2 million, while the Primary Market Area (26-50 miles) is 5.7 million. When including the Tertiary Market, the Total Market Area is comprised of 29.9 million residents, or 11.2 million households.
- The competitive set used in this analysis includes Liberty Science Center, the Crayola Experience, Franklin Institute Science Museum and Adventure Aquarium. And, the target attractions include only the Liberty Science Center and the Crayola Experience.
- The Concept Evaluation examined the performance metrics of the competitive set (visitation, intent to visit, length of visit, party size, etc.) and evaluated the new Science Center concept among this target population. Top box intent to visit the competitive set averaged 16.5% while among the target attractions, it dropped to 15.7%—yielding adjustment factors of 0.27 for the competitive set and 0.22 among target attractions.
- Applying adjustment factors to the new Science Center's top box intent delivered a range of resident market penetration from 6.0% to 7.5% with an average of 6.75%.
- But more importantly, consumer reaction to the new Science Center concept has intent to visit ratings that scored well above that of either the competitive set or target attractions.
- That is, the number of prospects living within 50 miles indicating they would definitely visit the new Science Center is 27.9%. As a result, the preliminary projections in this study (based solely upon primary market research from the Concept Evaluation) projected attendance ranges from **418,000 to 524,000** with an average estimate of **471,000**.
- Primary market research provides insight into how consumers living in the market feel about this new concept and how it compares to other known attractions across the region. In order to complete a comprehensive market research-based analysis of attendance potential, however, one also needs to benchmark the market for this new Science Center against a comparable set of science attractions nationwide.
- Therefore, in addition to testing the concept among area residents, H2R also benchmarked performance among comparably sized science attractions nationwide. Specifically, science attractions that have less than 100,000 square feet of public exhibition space in this evaluation (and that averaged 72,600 square feet in size) deliver attendance levels that average 393,400.



Executive Summary

Executive Summary, Continued

- Applying the new Science Center’s market parameters against the industry average for comparably sized science attractions delivers a projected attendance range from **214,000 to 489,000** with an **average projected attendance of 470,000**.
- Collectively, the combination of methodologies yielded a wide attendance range that extends from 214,000 (low end of benchmarked results using total market size) to 524,000 (upper end using concept research results).
- Considering the preponderance of evidence revealed throughout the research process along with the Science Center’s market size, H2R projects that the new Science Center in downtown Allentown has an attendance potential that would run from **450,000 to 520,000**, with an official projection of **485,000 in the stabilized year**.



Section I. Introduction and Assumptions

Introduction

The purpose of this report is to evaluate the Resident Market Area’s perception of the new Science Center concept, compare and contrast it to competitive attractions across the area and to project the attendance potential for the Science Center in downtown Allentown, PA. This report contains the following analyses:

Section I	Introduction and Assumptions
Section II	Market Analysis
Section III	Entertainment Context and Concept Results
Section IV	Industry Benchmark and Audience Potential
Section V	Contextual Comparisons

H2R conducted extensive primary and secondary market research and analysis for this study to ascertain the audience potential for the new Science Center.

Assumptions for the Study

The following assumptions were made in the preparation of this report and the conclusions are qualified by them:

- The size and design of the new Science Center will create a high-quality science attraction that appeals to a broad-based audience and have a distinctive image as described in the master plan. The new Science Center will be a unique attraction in the region and the nation. This distinction will give it visibility as a “must-see” attraction. (New facility size is expected to be 70,000-75,000 square feet.)
- The new facility will be competently and effectively managed.
- An aggressive promotional marketing campaign will be developed and implemented across the region. This program will be targeted to the primary science center audience. The admission price for the elements of the facility will be consistent with the entertainment and educational value offered and with current attraction admissions prices for other comparable visitor attractions across the area.
- There will be no physical constraints obstructing visitors from traveling to the Science Center, such as major construction activity downtown or on major highway arteries leading to/from Allentown. Likewise, it is assumed that changes in economic conditions such as a recession or significant environmental issues that could negatively affect operations and visitation will not occur in the foreseeable future.
- Every reasonable effort has been made to assure that the data contained in this report reflects the most accurate and timely information possible and the data is believed to be reliable. This report is based on estimates, assumptions and other information developed by H2R from independent research and primary market research efforts, general knowledge of the industry and consultations with the client. No responsibility is assumed for inaccuracies in reporting by the client, its agents and representatives, or any other data source used in the preparation of this report. No warranty or representation is made that any of the projected values or results contained in this report will actually be achieved. There will likely be differences between forecasted or projected results and actual results because events and circumstances usually do not occur as expected. Other factors not considered in the report may influence actual results.
- This report was prepared during December 2019 through January 2020 and represents data available at that time.
- This report may not be used for any purpose other than that for which it was prepared.



II. Market Analysis

Section II. Market Analysis

Resident Market Area Defined

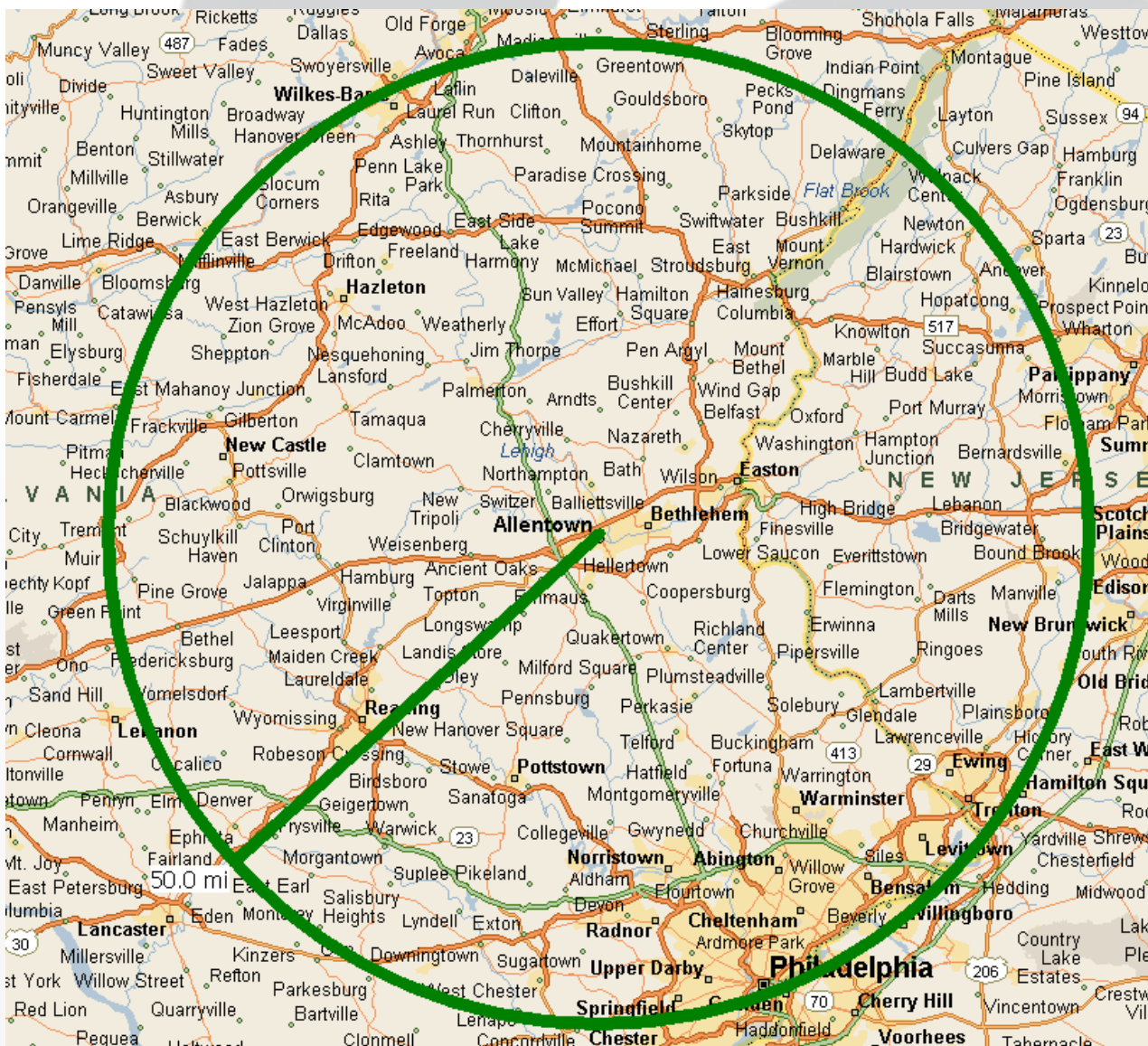
The Resident Market Area for this type of attraction is defined as the area whose residents would visit the Science Center as a primary purpose or as an important part of a day-trip. Resident Markets are analyzed within a “gravity model” context, which means that the closer residents live to an attraction, the more likely they are to visit. On its periphery, the Resident Market changes over to Tertiary Market, in areas located beyond 50 miles.

Ultimately, the geographic reach and available markets for a visitor attraction depends greatly upon the size, quality and type of products and services offered, its accessibility and location, the presence of other competitive attractions, and the marketing efforts of the organization.

For the purposes of this report, the Resident Market Area has been defined as the area within a 50-mile radius from Allentown, or approximately a 60-minute drive time.

- The Core Market Area is defined as the area within 25 miles of the site.
- The Primary Market Area is defined as the area between 26 and 50 miles of the site.
- The Tertiary Market Area is defined as the area between 51 to 100 miles of the site.

Figure 1: Resident Market Area (0-50 mile radius)



Section II. Market Analysis

Resident Market Area Population

In 2019, there were an estimated 6.9 million people residing within a 50-mile radius of the site in Allentown. This population is projected to grow 1.8% to 7.1 million by 2024. Growth is projected to be slightly stronger in the Core Market Area (+2.2%) than in the Primary Market Area (+1.7%).

Table 1: Resident Market Population by Year and Distance

Resident Market Population Distribution and Comparison									
Market	Ring	2010		2019		2024p		Est. Var. 2024-2019	
		Popn	HHs	Popn	HHs	Popn	HHs	Popn	HHs
Core Market	0-25 mi	1,177,077	446,507	1,232,164	465,286	1,259,275	474,786	2.2%	2.0%
Primary Market	26-50 mi	5,495,263	2,086,477	5,691,601	2,155,104	5,790,548	2,190,778	1.7%	1.7%
Resident Mkt Area	0-50 mi	6,672,340	2,532,984	6,923,765	2,620,390	7,049,823	2,665,564	1.8%	1.7%
Tertiary Market	51-100 mi	21,951,469	8,193,638	22,965,790	8,530,897	23,470,476	8,703,526	2.2%	2.0%
Total Market Area	0-100 mi	28,623,809	10,726,622	29,889,555	11,151,287	30,520,299	11,369,090	2.1%	2.0%

Core Market Area Population

Among the Core Market of 0-25 miles of Allentown, the population is expected to increase by 2.2% by 2024, bringing the population to 1.26M with 0.47M households.

Tertiary Market

Day-trips drive the vast majority of regional visitation. Thus, similar to projections in the original study, traditional extrapolations of market share by travel volume are not particularly relevant here. But, this certainly does not mean that the Science Center will not generate any visitation from beyond 50 miles.

In large markets (like Philadelphia) that generate millions of travelers annually, it is not unusual for attractions like Adventure Aquarium and the Franklin Institute to generate one-third or more of their visitation from leisure and business travelers beyond their Resident Market Areas. In the new Science Center's case, however, where overnight travel volume is limited and the market is located nearly an hour from urban hubs, it is expected that travelers from beyond 50 miles will comprise somewhat less of the science center's total visitation than experienced by these other regional attractions in a larger resident market with more tourism.



III. Entertainment Context and Concept Results

Section III. Entertainment Context and Concept Results

This section of the report examines the attractions that are most likely to compete with the new Science Center for both share of clock and wallet. This review includes the competition's attendance estimates and market penetration, as well as the 2020 Concept Study results.

Direct Competitors

Area insiders believe the Crayola Experience attracts as many as 450,000 visitors annually and is still expected to be one of the new Science Center's direct target competitors. Additionally, there are a number of other quality attractions located across the region. The new Science Center's decision makers identified five area attractions considered to be among the most direct competitors for the new downtown Allentown Science Center.

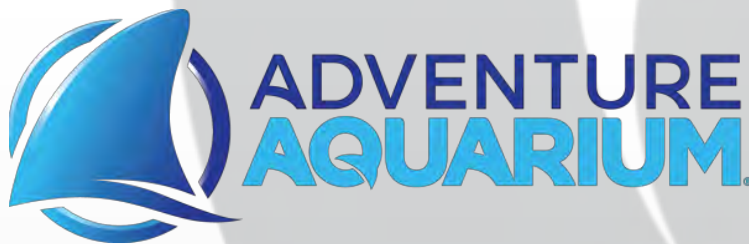
These attractions include:

- Adventure Aquarium
- Franklin Institute Science Museum
- Liberty Science Center
- The Crayola Experience
- Da Vinci Science Center*

**The Da Vinci Science Center is not likely a direct competitor but provides near optimal context.*

All five of these attractions were part of the primary market research that vetted the new Science Center concept among targeted consumers living within 100 miles of Allentown. However, Da Vinci Science Center was removed from all competitive set and target averages in these projections in order to align seamlessly with the original study conducted in 2018.

Figure 2: Competitive Set Logos



Section III. Entertainment Context and Concept Results

Competitive Set Attendance and Market Penetration

Combined, it is estimated that the four attractions in the competitive set (excludes Da Vinci Science Center) generate more than 3 million visits annually and average around 771,200 in attendance each with an average market penetration rate of 7.3%.

However, not all of those visits come from residents living within each of these attractions' own catchment areas—some inherently come from beyond 50 miles. And, more importantly, not all of their Resident Market attendance is generated from within Allentown's Resident Market Area. While there is considerable overlap, each catchment area is slightly different depending on each attraction's resident zip code. See Figure 3 below.

Figure 3: Visualization of Resident Market Area Overlap



Section III. Entertainment Context and Concept Results

Competitive Set Attendance and Market Penetration, Continued

Using a combination of firsthand knowledge, educated projections and the survey results from the concept evaluation study; H2R estimates that the average attraction in the Science Center's competitive set generates 307,500 visits from the Allentown Resident Market Area which represents a 4.4% market penetration.

Target attractions in the competitive set, or those that exhibit characteristics and consumer behavior most similar to the new Science Center (*Crayola Experience, Liberty Science Center*) average 232,500 in attendance from the Allentown Resident Market Area and yield a 3.4% market penetration.

This subset of attractions include those determined to align most closely with the Science Center concept in size and scope, are physically closest to the new Science Center and that exhibit the most similar consumer behavior in the 2020 Concept Evaluation conducted.

Table 2: Attendance and Market Penetration

Resident Market Population Distribution and Comparison					
	Resident Area Population	Total Attendance	Market Penetration	Attend. from Allentown Catchment	Market Penetration
Adventure Aquarium	8,103,820	950,000	11.7%	354,000	5.1%
Franklin Institute Science Museum	7,932,470	1,035,00	13.0%	411,000	5.9%
Liberty Science Center	19,165,694	650,000	3.4%	140,000	2.0%
The Crayola Experience	7,166,784	450,000	6.3%	325,000	4.7%
Competitive Set Overarching Average	10,592,192	771,200	7.3%	307,500	4.4%
Target Attractions' Average	13,166,239	550,000	4.2%	232,500	3.4%



Section III. Entertainment Context and Concept Results

Concept Study Results – Intent to Visit Attractions

Consumer intent to visit exhibited among the survey’s target audience (educational attraction consumers) was once again projected higher than market penetration among the general population would indicate is prudent. This, of course, is normal and illustrates why it is important to examine both actual consumer behavior and consumer intentions relative to a specific set of known competitors in the Resident Market Area, and to explore how these ratios vary between attractions.

Table 3: Intent to Visit Attractions

% Top Box – Definitely Would Visit	
Adventure Aquarium	17.3%
Franklin Institute Science Museum	17.4%
Liberty Science Center	16.7%
The Crayola Experience	14.6%
Competitive Set Overarching Average	16.5%
Target Attractions' Average	15.7%

Overall, top box intent to visit in the next 12 months (ratio of the target audience indicating they would “definitely visit” the attractions) for the competitive set averaged 16.5% overall. Similarly, top box intent among target attractions (the Crayola Experience and the Liberty Science Center) yielded an average top box score of 15.7%. Top box intent is preferred to the sum of the top 2 boxes, probably and definitely would visit, because this metric represents those with the greatest conviction to patronizing these attractions.

Adjustment Factors

Because consumer intent to visit metrics routinely run higher than actual annual attendance supports, H2R once again employed an adjustment factor to the reported consumer intent. The adjustment factor serves as a governor that translates the intent into a more precise estimate of actual market penetration.

Comparing consumer intent with actual market penetration enables the calculation of a relevant adjustment factor for each attraction in the competitive set as well as for target attractions among the group. These projections provide insight into the initial range of market penetration one should expect for the new Science Center in a stabilized year among residents that aligns with comparable attractions in the region.

The average attraction in the competitive set yielded an adjustment factor of 0.27 while target attractions produced an adjustment factor of 0.22.

Table 4: Top Box Intent to Visit and Corresponding Adjustment Factors

Resident Market Population Distribution and Comparison				
	Top Box Intent to Visit	Reported Incidence	Actual Market Penetration	2020 Adjustment Factor
Adventure Aquarium	17.3%	15.6%	5.1%	0.30
Franklin Institute Science Museum	17.4%	14.8%	5.9%	0.34
Liberty Science Center	16.7%	5.4%	2.0%	0.12
The Crayola Experience	14.6%	7.2%	4.7%	0.32
Competitive Set Overarching Average	16.5%	10.7%	4.4%	0.27
Target Attractions' Average	15.7%	6.3%	3.4%	0.22
Average Adjustment Factor	16.1%	8.5%	3.9%	0.24



Section III. Entertainment Context and Concept Results

Concept Study Results – Intent to Visit the Science Center at Particular Price Points

Results from the Concept Study also provided insight into consumer intent to visit the new Science Center at different price points. Using an A/B split where half of respondents were randomly selected and asked their intent to visit if the new Science Center were priced at \$20 for an adult admission and the other half were sorted into another cell of respondents who rated their intent to visit the new Science Center if it were priced at \$25 for an adult admission.

The \$20 price point generated significantly higher demand at 37.9%, while 30.4% indicated they would visit at the \$25 price point. Extrapolating intent across a sampling of 10,000 consumers and these respective price points, H2R observed that the \$25 price was actually the one likely to generate the greatest level of admissions revenue, +0.3% more than the \$20 price point would be expected to yield. Thus, if only considering top box responses, one would consider the price elasticity for demand at the Science Center to be slightly inelastic. That is, while demand would most likely decline as price increases, but projected revenue would likely increase very slightly at \$25.

For this reason, H2R chose to align its projections with intent at the \$25 price point.

The pricing results from the Concept Study should only be used to provide context in this analysis since only two price points were evaluated. H2R strongly recommends conducting a full Predictive Pricing Study prior to opening to optimize the new Science Center's pricing structure. This type of study would ensure that the attraction is charging optimal prices for maximizing gross revenue.

Projecting the Range of Market Penetration Expected for the Science Center

Qualified consumers in the Resident Market Area (0-50 miles) delivered a 27.9% top box intent for visiting the new Science Center.

Applying the relevant adjustment factors from both the competitive set and target attractions, it is estimated that the Science Center would deliver market penetration ratios ranging from 6.0% to 7.5% among those living within the Allentown Resident Market Area, and an average of 6.8%.

Table 5: Projecting the New Science Center's Range of Performance

0-50 Mile Resident Market Penetration

	Top Box Intent to Visit	Adjustment Factor	Projected Market Penetration
Competitive Set Overarching Average Adjustment Factor	16.5%	0.27	4.4%
Target Attractions' Average Adjustment Factor	15.7%	0.22	3.4%
New Science Center – Utilizing Comp. Set Overarching Avg. Adjustment Factor	27.9%	0.27	7.5%
New Science Center – Utilizing Target Attractions' Avg. Adjustment Factor	27.9%	0.22	6.0%
New Science Center – Average	27.9%	0.24	6.8%

Applying this 6.8% adjustment factor to the new Science Center's Resident Market Area, the preliminary attendance projection is 471,000, with a range of 418,000 to 524,000.



Section III. Entertainment Context and Concept Results

Impact of Operational Factors

Other operational factors such as length of stay, frequency of visits, party size, etc. will impact attendance, and each of these factors were taken into consideration in H2R's projection models.

The new Science Center concept is perceived as being an attraction that would deliver a top box intent to visit that is comparatively strong relative to target competitors (27.9% vs. 15.7%), a longer length of visit (3.2 hours vs. 2.8 hours among target facilities) and slightly stronger frequency of visitation (37% visiting once or more per year vs. 20% among visitors of target facilities). But the Science Center is expected to produce a smaller party size (3.8 vs. 4.3 visitors per party).

Table 6: Competitive Set and Target Attractions' Key Performance Indicators

0-50 Mile Resident Market

	Adventure Aquarium	Da Vinci Science Center	Franklin Institute	Liberty Science Museum	Crayola Experience	Comp. Set Overarching Average	Target Attractions' Average	New Science Center
Reported Incidence	15.6%	5.7%	14.8%	5.4%	7.2%	10.7%	6.3%	<i>n/a</i>
Top Box Intent	17.3%	16.9%	17.4%	16.7%	14.6%	16.5%	15.7%	27.9%*
Actual Incidence	5.1%	1.4%	5.9%	2.0%	4.7%	4.4%	3.4%	<i>n/a</i>
Adjustment Factor	0.30	0.08	0.34	0.12	0.32	0.27	0.22	<i>n/a</i>
Satisfaction	4.46	4.24	4.58	4.39	4.36	4.45	4.38	<i>n/a</i>
Party Size	4.51	3.95	4.36	4.36	4.32	4.39	4.34	3.80
Length of Stay in Hours	3.00	2.40	3.20	2.80	2.70	2.93	2.75	3.20
Frequency (Visit Once a Year+)	19.1%	21.9%	17.5%	22.0%	17.4%	19.0%	19.7%	36.5%

*Intent at \$25 price point

Barriers to Visitation

The 2020 Concept Evaluation devoted one open-ended question to explore barriers among consumers who indicated they are not likely to visit the new Science Center.

Overall, 29% indicated they would not be likely to visit. Of those, 40% referenced price as the reason why they are not likely to visit, while 39% referenced distance to Allentown/too long of travel time. Other prospects cited their family not being the right age (14%) and a lack of interest (10%) as their barriers to visiting.



IV. Industry Benchmark and Attendance Potential

Section IV. Industry Benchmark and Attendance Potential

Benchmark Comparisons of Science Centers <100k Square Feet

The data in Table 7 below compares the population and attendance for select benchmarked science centers across the country that are less than 100,000 square feet in size. As with all our reporting, H2R shows ranges of science center performance, as this information is considered confidential by operators and this ensures they remain willing to share their proprietary information.

Science centers nationwide come in all shapes and sizes from the very large to the very small. In this comparison, only those science centers with fewer than 100,000 square feet of space were considered. The benchmark science centers included in this analysis have public spaces that average nearly 72,600 square feet, comparable to the projected size for downtown Allentown's new Science Center at 70,000 to 75,000 square feet.

Table 7: Market Performance Ranges of Benchmark Science Centers (<100k sf) and Ratios of Attendance to Resident and Total Market Population

Average Benchmark Science Center <100k sf								
	Avg. Resident Market Area Pop.	Average Facility Size (sf)	Average Resident-Based Attend.	Avg Ratio of Annual Attend. to Res. Pop.	Effective* Tourist Volume	Total Market Size	Avg. Total Market-Based Attend.	Total Market Penetration
Low-Range	5,410,943	51,916	213,511	3.9%	775,462	6,186,405	213,511	3.5%
Average (Mid-Range)	5,285,155	72,615	393,412	7.4%	1,875,783	7,160,938	393,412	5.5%
Median	5,403,134	73,582	352,905	6.5%	1,192,132	6,595,266	352,905	5.4%
High-Range	5,434,582	74,635	488,925	9.0%	2,680,190	8,114,772	488,925	6.0%
New Science Center	6,974,188	72,500	519,139	7.4%	1,582,400	8,556,588	470,087	5.5%

*Effective Tourist Volume = 34.4% of total tourism volume (% aligns with nationwide intent to visit science centers in VOV)

Most of these science centers are located in comparatively high population areas. The median resident population benchmarked among these science centers nationwide is 5.4 million with an average of 5.3 million, smaller than Allentown's Resident Market Area of nearly 7 million. Likewise, most also enjoy comparatively high levels of tourist volume, from a median of 3.5 million travelers annually to an average of 5.5 million. However, not all tourists are among the appropriate target market for science centers. According to PGAV Destinations & H2R Market Research's 2020 *Voice of the Visitor* research, 34.4% of the U.S. population indicated they would probably or definitely visit a science center in 2020. And, therefore, using that number as a guideline, we have assumed that only 34.4% of the travel volume to each destination is a potentially valid target audience. Thus, the effective travel market in the benchmark adds a median of 1.2 million travelers to the overarching market size and an average of 1.9 million.

The figures in Table 7 reveal the range of performance expected from benchmark science centers nationwide. The Resident Market penetration rate (the ratio of total visits relative to the population in the local trade area) runs from 3.9% to 9.0%. And, including effective tourist volume, the market penetration rate among the overall market averages from 3.5% to 6.0%. The average science center of this size delivers attendance of 393,400 and, more importantly, a 7.4% market penetration rate relative to the Resident Market Area population and 5.5% average among the overarching market including relevant travel.

These benchmark analyses are indicators that the attendance potential analyses for the new Science Center in Allentown are reasonable in indicating future attendance potential.



Section IV. Industry Benchmark and Attendance Potential

The evaluation of attendance potential for the new Science Center in Allentown is based upon the size and characteristics of the Resident Market available, the proposed location of the project, the competitive context in the region as a whole, primary market research and industry benchmarks, and the preliminary vision for the Science Center.

Attendance Potential

The attendance potential analyses presented below provide a reasonable future attendance range for the Science Center given the assumptions cited in this report and the project description.

The attendance potential analyses were informed by the experience of other science centers. In turn, the results of the attendance potential analyses were compared to the benchmarked attendance data for other major science centers of comparable size. Data in Table 8 provides a range of stable year attendance potential from the Science Center's Resident Market Area in Allentown, PA and the Tertiary and Tourist Markets.

In this model, visitation from individual residents and groups from the Resident Market Area is projected as a ratio of the total. Stabilized attendance levels are achieved in the third year after project opening, since typically such facilities attract large audiences upon initial opening, and then the attendance stabilizes over time.

Initial projections in the table below include all individuals, groups, events, field trips, etc. for the Science Center's total attendance potential.

Table 8: Stabilized Year Attendance Potential

	Population	Low Range		Mid-Range		High Range		% of Mid-Range Attend.
		Market Penetration	Attend.	Market Penetration	Attend.	Market Penetration	Attend.	
Core Market (0-25 miles)	1,232,164	7.8%	96,232	8.2%	100,421	8.9%	109,047	21%
Primary Market (26-50 miles)	5,691,601	4.9%	278,960	5.0%	285,264	5.3%	302,610	59%
Total Resident Market Area	6,923,765	5.4%	375,192	5.6%	385,686	6.0%	411,657	80%
Tertiary (51-100 miles) & Tourist Markets	25,796,000	0.3%	74,808	0.4%	99,315	0.4%	108,343	20%
Total Projection	32,719,765	1.4%	450,000	1.5%	485,000	1.6%	520,000	100%

A range of attendance potential for the proposed project has been established based on the vision provided in the Science Center master plan, scale of project proposed, and other assumptions in this report. The preliminary attendance potential is estimated at 450,000 to 520,000, with a mid-range estimate rounded to 485,000 in a stable year of operation, as shown in Table 8 above.

The Science Center's mid-range level of performance is projected to attract nearly 100,000 visits from the Tertiary and Tourists Market.

The evaluation of attendance potential for the new Science Center represents a range of market response, but it also reflects the high-level conceptual nature of location in downtown Allentown. The projected attendance potential assumes that 80% of its visitation will come from the Resident Market Area (including school children, groups and events) and that 20% of its visitation will be generated from residents living more than 50 miles from Allentown in the Tertiary and Tourist Markets.



Section IV. Industry Benchmark and Attendance Potential

Five-Year Stabilization Pattern

As noted earlier, for a visitor attraction such as a science center, attendance in the first years of operation are typically higher than in later stabilized years due to market excitement created by the presence of a new attraction. Visitation of up to 25% above stabilized attendance could be anticipated during the opening year given community interest in the new Science Center.

Data in Table 9 shows an estimated five-year attendance pattern, with an early year surge and visitation subsiding after opening. It is assumed that the Science Center will offer regularly changing content and exhibits at least annually or biannually to create “new” reasons to visit and that in year 4, the Science Center would open a substantial new exhibit or program activity, which will in turn create renewed excitement about the museum. Further, continued development and investment in downtown Allentown should enhance the Science Center’s market potential.

Table 9: Five-Year Attendance Potential Pattern*

	YEAR 1	YEAR 2	YEAR 3 (STABLE)	YEAR 4	YEAR 5
Percentage of Stabilized	125%	110%	100%	100.5%	101%
Attendance Potential					
Low Range Visitation	562,500	495,000	450,000	452,250	454,500
Mid-Range Visitation	606,250	533,500	485,000	487,425	489,850
High Range Visitation	650,000	572,000	520,000	522,600	525,200

**Assumes 0.5% growth rate annually after stable Year 3 due to market growth and critical mass in Allentown and the long-term positive impact of these developments.*

Section IV. Industry Benchmark and Attendance Potential

Entertainment and Educational Attraction Success Factors

Audiences today are exposed daily to extremely high-tech, high quality media and technology at work, school and at home. Further, visitor attractions across the region such as Hersheypark, Sight & Sound Theaters, Adventure Aquarium, the Franklin Institute, etc. set high standards in terms of exhibit and attraction quality and design. Due to high audience expectations, developing a new science attraction that relies upon visitor attendance must adopt those same high-quality design and amenities to effectively compete. As the expectations by audiences of leisure attractions are very high, a successful envisioned Science Center must meet audience expectations of value provided in terms of both money and time spent.

To achieve its attendance potential, the Science Center should fulfill the following criteria:

- ❑ **Excellent Site and Location** – The accessibility and visibility of the location are critical to the Science Center’s future market success. Visitor attractions in outstanding locations naturally have the greatest market opportunity. The specific location chosen for the Science Center will impact market potential.
- ❑ **Strong Community Support** – The project must meet the needs of the community broadly defined and have a broad base of support. In this case, the new Science Center has the potential to generate significant economic and quality of life benefits to the community and serve as an iconic attraction bringing together a wide range of community assets.
- ❑ **Strong Mission** – The Science Center must carry forward with a strong mission and case for support. STEM/STEAM education is a critical need in the United States and the Science Center in Allentown can serve as the regional center for STEM/STEAM.
- ❑ **Appeals to a Broad Audience Mix** – There must be sufficient attraction content to appeal to a diverse audience with a wide range of subject interest, ages and education. There must be a variety and quantity of experiences for the visitor to feel they have visited a special place.
- ❑ **Authenticity and Quality** – The interpretive elements should have a high degree of interest and/or relevance to the audience. Audience expectations of content and presentation have risen dramatically.
- ❑ **Critical Mass of Elements/Length of Stay** – The new Science Center need not be as physically large as Liberty Science Center or the Franklin Institute but must have sufficient quality and quantity of content to warrant the length of stay envisioned and/or a special trip, and to possibly forego alternative activities.
- ❑ **Repeatability** – For most visitor attractions the resident market is an important part of their total market. This is particularly important for science centers. To bring the resident market back repeatedly, the science center must have program, service and site qualities that justify repeatable experiences. Dynamic changing and interactive interpretation and exhibits, consistently new and innovative programming and special/annual events are successful ways for projects of this type to encourage repeat visitation.
- ❑ **Designed from the Inside Out** – Although the building itself should be aesthetically beautiful, and a visual symbol for the region and a source of identity, the new Science Center should be designed from the inside out. In other words, the physical design of the Science Center should optimally meet its programming and operating needs so that the facility is scaled appropriately and operates efficiently.
- ❑ **Appropriate Pricing** – In order to maximize consumer demand and gross revenue, an in-depth Predictive Pricing Study should be conducted in advance of the opening. This study would identify optimal price points for adult admission, child admission and annual passes.



Appendix

Science Center/Element Descriptions Used in 2020 Concept Study

Science Center Overview

Next you will read about an idea for a new attraction in Allentown, PA. After you review the idea you will be asked to respond to several questions that follow.

Da Vinci Science Center is building a new 21st Century Science Center featuring:

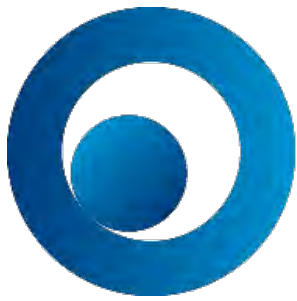
- A 75-foot tall fully immersive walk-through human body exhibit.
- A Lehigh River Watershed exhibit that showcases live animals, including a curious and playful family of North American river otters.
- A Curiosity Lab in which you don't just look at exhibits, you explore science and art by playing with dozens of mind-blowing exhibits.
- A simulated Factory Floor exhibit that allows visitors to get hands-on with the cutting-edge design, production, and delivery methods used in state-of-the-art Smart Factories.
- A science demonstration theater, a traveling exhibit hall, and a Leonardo da Vinci multimedia experience.

Science Center Elements

Next, you will see a variety of elements that would comprise the overall attraction. Please read each description in its entirety and then answer the questions that follow.

- The Lehigh River Watershed experience will showcase a curious and playful family of North American river otters in an exhibit that allows animal care staff to facilitate live animal shows that demonstrate how they work with and care for the animals and explain how visitors can maintain and restore waterways to protect animal habitats.
- 75 ft. tall walk through human body: Experience what it's like to actually walk through a human body and become immersed inside the organs and structures of the heart, brain, lungs, and other human body systems. Learn about the body, explore how it works, and find out how to keep it healthy.
- Made in the Lehigh Valley: Step onto a simulated Factory Floor and get hands-on with cutting edge design and production methods used in state-of-the-art factories and explore how technologies like robotics, drones, and artificial intelligence deliver products to their final destination.
- Science Demonstration Theater brings science to life on stage right before your very eyes with larger-than-life science experiments that involve chemical reactions, pyrotechnics, the magic of bubbles, and audience volunteers riding a hovercraft built right on stage.
- Traveling Exhibit Hall: Experience the latest blockbuster traveling science exhibits like The Science behind Pixar, Titanic, Lego – Art of the Brick, and Dinosaurs in Motion in a full-size traveling exhibit hall.
- The Curiosity Lab is a space where you don't just look at exhibits; you explore science and art by playing with dozens of mind-blowing exhibits that offer shared experiences to facilitate family learning. Touch a tornado, create your own landscape in an augmented reality sandbox, and experiment with cause and effect while playing with water.
- Leonardo da Vinci Exhibit: Learn about the curious mind and creative genius of Leonardo da Vinci in a dramatic interactive multimedia experience that brings to life Leonardo's art, anatomical observations, and the amazing drawings of his notebooks that imagined inventions and deepened scientific understanding that impacts our lives today. Learn how you too can think like Leonardo.
- The S.T.E.A.M. Education Center will feature specialized classroom and workshop spaces offering programs that integrate art with science, technology, engineering, and math. Sign up for a 1-hour program or an 8-week course to explore your creative interests.





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SCIENCE
CENTER®

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Strategic Planning Study
Presentation to the Board of Trustees
Da Vinci Science Center

February 2020



Suzanne Hilser-Wiles
President

Christine Begley
Senior Vice President

GG+A AND THE DA VINCI SCIENCE CENTER

- In Fall 2019, Grenzebach Glier and Associates (GG+A) was retained by the Da Vinci Science Center (the Science Center) to conduct an Internal Readiness Assessment and wealth screening of existing constituents, followed by a Strategic Planning Study.
- The first part of this assessment was internally focused and designed to review the Science Center's fundraising performance and programs, staffing and resources, and prospect pool relative to its proposed goals for increased fundraising. The results of that study were delivered in December 2019.
- The Science Center is considering a campaign of approximately \$32 million to support a new building and programs.
 - Achieving this goal would require a significant increase in fundraising for the Science Center. Over the last five years (FY15-FY20) the Science Center raised approximately \$1.5 million in total private support each year.

GG+A AND THE DA VINCI SCIENCE CENTER

- The second part of GG+A's assessment was externally focused and designed to provide the Science Center with a detailed report grounded in qualitative and quantitative data that identifies the Center's strengths and challenges as it prepares for the proposed campaign.
- GG+A's strategic planning study included the following components:
 - Development of the case for support and funding priorities.
 - A series of **four leadership briefings attended by 93 participants**, led by Executive Director Lin Erickson, with support from GG+A.
 - **Thirty-seven (37) confidential interviews** with prospective leadership donors.
 - The interviewees do not represent a statistically significant, random sample but are a carefully selected group of individuals whose support and opinions are critical to the success of the campaign.

SUMMARY FINDINGS

Findings across these studies have been highly consistent.

- We have found that both internal and external stakeholders have:
 - A high degree of confidence in Executive Director and CEO Lin Erickson
 - Extraordinary commitment to the Science Center
 - Enthusiasm and support for the move to downtown Allentown
- The key challenges we identified include:
 - Questions regarding the viability of the effort, following the dissolution of the Easton project
 - Lack of relationships with Science Center staff beyond Lin, leading to the perception that she is working alone
 - Concerns about the Development program's ability to execute on a campaign of this size
 - An uneven donor experience, including critical feedback on stewardship and recognition
 - Lack of willing volunteers for the campaign
 - The size of the campaign prospect pool, as it is currently defined

CONSIDERATION OF THE WORKING GOAL FOR THE CAMPAIGN

- In evaluating the proposed campaign goal of \$32 million, we considered the following sources of likely gifts:
 - The total major and principal gifts over the last five years
 - Lifetime giving of the top 12 prospective donors
 - Interviewee responses to the targeted ask amount provided by the Science Center
 - An analysis of top prospects (including foundations and corporations) not interviewed by GG+A

CONSIDERATION OF THE WORKING GOAL FOR THE CAMPAIGN

- A campaign of \$32 million for the Da Vinci Science Center would likely require at least six gifts of \$1 million or more, with another 135 between \$10,000 and \$500,000.
 - Of the 12 individual donors interviewed about gifts of \$1 million or more, only 3 have already achieved lifetime giving records at the levels tested; in other words, the proposed campaign would require donors to commit more philanthropic support to the Science Center than they have provided in total, over time.
 - The Science Center has closed an average of 301 gifts from private donors (individuals, foundations, and corporations) totaling an average of \$1.5 million per year since 2015.

CAMPAIGN GOAL ANALYSIS

- GG+A examined two groups of current donors:
 - Top prospective campaign donors who were interviewed
 - Top prospective campaign donors who were not interviewed
- The Science Center assembled the list of prospective donors, their most recent gifts, their optimal rated potential, as well as other key metrics.
 - Optimal rated potential refers to the largest campaign gift a donor may realistically make, payable over a period of up to five years, based on the previously conducted prospect analysis.
- GG+A tested a target ask amount provided by the Science Center based on rated potential with each interviewee.

CAMPAIGN GOAL ANALYSIS

Group One

- GG+A’s consultants conducted interviews with Group One, which included 37 prospective donors/households, and estimated likely high and low campaign gift levels based on their response when asked about a specific campaign gift amount.
- These high and low campaign gift levels were compared to the total optimal rated potential to determine a percentage for the low, mid, and high points.
- We used the mid-range assessment for Group One, or **40.1% of total optimal rated potential** to forecast this group’s giving to the campaign.

Group Two

- Group Two includes the Science Center’s targeted prospects that GG+A did not interview. Group One’s low, mid-point, and high giving percentages were used to forecast Group Two’s percentages of rated potential.
- Using the data from Group One, GG+A applied the low assessment, or **22.1%**, to Group Two, to forecast giving of this group.
- Totaling the likely giving for the two groups, we forecast **a total of \$13.5 million**, which we believe is a realistic estimate.

CAMPAIGN GOAL ANALYSIS

Da Vinci Science Center

Combined Giving Analysis of Interviewees and Non-Interviewees

	Rated Potential	GG+A Evaluation		
		Low Assessment	Mid-Range Assessment	High Assessment
Interviewed Prospects (38)	\$23,560,000	\$5,215,000	\$9,457,500	\$13,700,000
Non-Interviewed Prospects (60)	\$18,334,500	\$4,058,337	\$7,359,870	\$10,661,403
Total (98)	\$41,894,500	\$9,273,337	\$16,817,370	\$24,361,403
Forecasted Total	\$13,515,837			
Campaign Commitments Already Made	\$1,779,923			
Total	\$15,295,760			

Notes: Rated Potential denotes prospect ratings supplied by Da Vinci staff.

Assessments are based on GG+A's evaluation of all interviewed prospects with rated potential.

Number of Interviewed Prospects includes interviewed representatives from corporations and foundations.

Campaign Commitments Already Made includes total funding raised to date for expansion building and STEAM TEAM.

Typically, institutions include unrestricted bequests in campaign numbers. Since the Science Center hasn't had any significant bequests in the last five years, none were projected. However if some are received, we recommend they are counted toward the campaign goal.

STRETCH CAMPAIGN GOAL

Da Vinci Science Center Combined Giving Analysis of Interviewees and Non-Interviewees

	Rated Potential	GG+A Evaluation		
		Low Assessment	Mid-Range Assessment	High Assessment
Interviewed Prospects (38)	\$23,560,000	\$5,215,000	\$9,457,500	\$13,700,000
Non-Interviewed Prospects (60)	\$18,334,500	\$4,058,337	\$7,359,870	\$10,661,403
Total (98)	\$41,894,500	\$9,273,337	\$16,817,370	\$24,361,403
Forecasted Total		\$16,817,370		
Campaign Commitments Already Made		\$1,779,923		
Total		\$18,597,293		

Notes: Rated Potential denotes prospect ratings supplied by Da Vinci staff.

Assessments are based on GG+A's evaluation of all interviewed prospects with rated potential.

Number of Interviewed Prospects includes interviewed representatives from corporations and foundations.

Campaign Commitments Already Made includes total funding raised to date for expansion building and STEAM TEAM.

PRELIMINARY CAMPAIGN GOAL RECOMMENDATION

- The Science Center's total rated potential of currently identified leadership prospects falls short of the anticipated \$32 million campaign goal.
 - A major factor is that the rated potential for the full pool is barely more than the total goal. GG+A would expect a rated potential pool of at least \$50 million for a campaign of this size. A significant number of additional prospects will be needed to reach this goal.
- Based upon our analysis, the identified prospects are likely to contribute between 22.1% and 58.1% of the Science Center's rated potential and significantly less than the dollars needed to achieve the goal *if the Science Center were to move forward today with the project as it is currently planned and with only those prospects identified to GG+A by the Science Center staff.*
- This analysis does not take into account the remaining 567 prospects identified through the recently conducted prospect analysis who were determined to be likely donors to the Science Center and were rated with a capacity of \$25,000 and above. The low-range giving potential of this pool totals \$20,325,000. However, the majority of these people have likely not yet been cultivated by the Science Center.
 - Gifts from this pool will only be achievable with significant investment in the program, especially focused on accelerating leadership and major gifts fundraising.
 - It will take active cultivation over the next year to begin to prepare this group for an aspirational campaign gift in the next 18 to 24 months.
 - Qualification of these prospects should begin immediately.
- **The absence of major gifts fundraising activity and the low number of \$1 million and above prospects suggests that a longer timeframe and broader base of donors will be required to complete the campaign effort.**

ASSESSMENT OF PERFORMANCE AGAINST CAMPAIGN PLANNING CRITERIA

- The Science Center enjoys a positive **institutional image** and reputation among constituents capable of making significant gifts, though there are still many negative feelings and concerns regarding the Easton project.
- There is a high level of confidence in the Executive Director and CEO's **institutional leadership** and a belief that she is committed to personally championing the philanthropic priorities with prospective donors. However, there is a lack of connection with the other members of the Science Center's senior leadership team.
- Though there is confidence in the Science Center's **fundraising program**, there are concerns about the current staff's ability to manage a campaign of this size and reported issues with gift counting and recognition.
- Respondents believe the **case for support** is both compelling and clear, but encourage a greater focus on impact and metrics. There was stronger interest in the building priority over the education and outreach priority.
- The Science Center's **volunteer leaders** are less willing to provide the necessary time, resources, and talent for the campaign than GG+A typically sees.
- A high percentage of **potential donors** are willing to commit to campaign gifts, but not at the level necessary to meet campaign targets. While the recent wealth screening identified an adequate pool of major gifts prospects in terms of dollar value, this pool has not been cultivated. Further, GG+A would expect a larger number of total prospects to meet the intended goals.
- The majority of respondents believe now is a reasonable **time** to commence a campaign relative to economic and other circumstances.

RECOMMENDATIONS

- GG+A recommends that the Science Center adopt a staged approach to its goal setting, focused on building confidence and establishing an ambitious but realistic goal.
 - The first stage should be to secure the top six to eight individual and corporate gifts that can be publically announced to build confidence in the project and assess a realistic target for the overall campaign. These lead donors can become advocates for the campaign.
 - This group should be solicited within the next three months.
 - Once that group has been solicited and their commitment to the campaign has been determined, an overall goal for the campaign can be set.
 - The full Board should be asked to make an aspirational campaign commitment over the next six months.
 - Allentown corporations and corporate leaders also should be prioritized.
- We recommend the Science Center concentrate on the following key areas immediately, which were outlined in the internal assessment:
 - Growing resources for the Development Program
 - Engaging the Board in the fundraising process
 - Cultivating and broadening the Prospect Pool

RECOMMENDATIONS

DEVELOPMENT PROGRAM

- **GG+A recommends significant changes to the Science Center's Development program** in order to meet its goals and spur growth in philanthropic support for the campaign and beyond. In addition, the Development program must exhibit an unprecedented level of discipline and focus in order to achieve campaign success. Recommended changes include:
 - Strengthening the Development staff and organization to enable it to meet the Science Center's objectives as recommended in the internal assessment
 - Continuing face-to-face gift conversations with study participants, especially Board members
 - Increasing substantially the number of face-to-face meetings and ask conversations with all major donors and major gifts prospects
 - Communicating a clear and compelling case for philanthropy at the Science Center, supported by gift opportunities that will attract major and leadership annual gifts
 - Ensuring that gifts are counted, credited, and reported accurately
 - Developing a scalable stewardship plan that provides recognition to donors commensurate with the size and impact of their gifts

RECOMMENDATIONS

DEVELOPMENT PROGRAM

- In order to prepare for the growth required for a capital campaign, GG+A has recommended the Science Center will need to prioritize the following investment in staff. These staffing recommendations are imperative if the Science Center is going to achieve significant fundraising growth.
- The Center currently raises \$1.5 million on average in total private support. With this campaign, it is seeking to increase this to approximately \$6 million a year over the next five years. This represents a growth trajectory of 300% - exponential and ambitious growth for any organization. The Science Center simply cannot achieve this with the current staffing level. In GG+A's experience, institutions employ six to seven development staff in order to achieve similar fundraising goals.
- In addition to specific training for existing staff, GG+A recommends adding three positions in the near term to support increased fundraising efforts for the campaign:
 - **Institutional Giving Manager:** This position will manage all functions of corporate, foundation, and government fundraising
 - **Major Gifts Officer:** Responsible for identifying, soliciting, and closing prospective donors capable of giving at the defined major gift level, maintaining a portfolio of 125 to 150 qualified prospects.
 - Part-time, temporary **Event Manager** to manage the Hall of Fame Awards Gala
- Formalizing fundraising plans, including an annual Development and Communications plan.

RECOMMENDATIONS

BOARD ENGAGEMENT

- GG+A further recommends the following to support campaign success:
 - The Board, and the Philanthropy Committee in particular, be further engaged in philanthropy at the Science Center:
 - Lead by example with their own philanthropy
 - Redefine and communicate a clear policy on Board giving expectations
 - Partner with the Executive Director and CEO and the Director of Philanthropy on identifying, cultivating, stewarding, and at times, asking for gifts
 - Setting a potential goal of 40% of support for annual operating expenses raised from the Board
 - Setting a campaign participation and/or dollar goal from the Board
 - The Science Center should begin to focus on planned gifts, starting at the Board level. GG+A recommends the Board consider a goal of 75% of Board members having a documented planned gift by the completion of the quiet phase of the campaign.

RECOMMENDATIONS

PROSPECT POOL

- **GG+A recommends developing a plan for broadening the Science Center's base of support.** This may include:
 - Using information from GG+A's prospect analysis and predictive modeling to reach new donors and increase giving of existing donors
 - Hosting additional leadership briefings to engage a larger set of major gift prospects
 - Engaging the Board in reviewing prospect lists and introducing new prospects
 - Creating a cultivation plan for low-dollar donors, members, or event participants with capacity to make a major gift

Da Vinci Science Center	
Campaign Implementation Timeline	
Task/Deliverable	Timeframe
Begin to hire staff and implement recommendations from GG+A's initial assessment	Immediate
Cultivation of major and leadership giving prospects	Immediate and Ongoing
Identification and cultivation of new prospects	Immediate and Ongoing
Board Decision to move forward with the Campaign	March
Begin Quiet Phase	March
Identify Campaign Chair	March
Solicit the top 5-7 prospects	March - May
Solicit top institutional prospects	March - May
Campaign asks to the remainder of the Board and key Allentown Corporate prospects	March - September
Create Campaign materials (printed Case for Support)	April - August
Develop Campaign Leadership Committee	April - August
State Grant Match Deadline	May
Finalize Campaign Goal	September Board Meeting
Begin Construction of Facility	July - December 2021
Launch Public Phase	September 2022
Public Opening	September 2023