

CIVIC PARTNER 2018 ANNUAL REPORT SNAPSHOT- CALGARY SCIENCE CENTRE SOCIETY (TELUS SPARK)

CALGARY SCIENCE CENTRE SOCIETY (TELUS SPARK)

Mission: We bring people together to learn, play and create with science, technology, engineering, arts and math (STEAM).

Vision: A community transformed by a culture of curiosity, risk-taking and problem solving.

Registered Charity

One Calgary Line of Service: Economic Development and Tourism

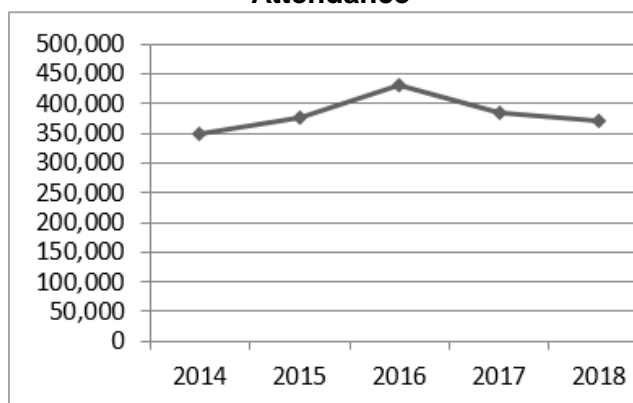
2018 City Investment

Operating Grant: \$ 2,212,562

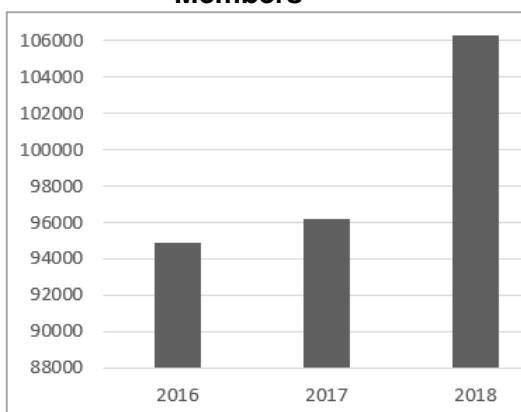
City owned asset? Yes

2018 Results

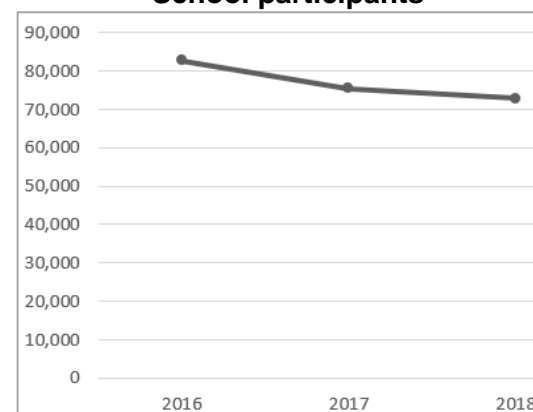
Attendance



Members



School participants



The story behind the numbers

- While general paid attendance was lower than projected, TELUS Spark had a record number of membership sales in 2018. Attendance included 3,591 new Canadians and 12,724 visitors through the Community Connections Program who may otherwise not have had the opportunity to visit.
- Spark continued to work closely with the Calgary Board of Education, Calgary Catholic School District and Siksika School Board to provide transportation and educational opportunities to more than 3,000 at risk students in 2018.

Strategic alignment

- Programs support the Innovation stream of *Calgary in the New Economy: An economic strategy for Calgary*. 2018 initiatives included an autonomous vehicle test and display, PwrPak7, and a display about the use of fibre optics in pipeline management.
- Travelling exhibits including *Whales/Tohora* from New Zealand and activation in Olympic Plaza with *Truckstop Circus and Happenings* in partnership with Arts Commons supported the *Cultural Plan for Calgary*.
- Access for low income Calgarians through the Community Connections program and summer camperships support the *Enough for All* poverty reduction strategy.
- The Junkyard Playground supports The City's *Open Spaces Plan*, and the *Recreation Master Plan* by encouraging kids to be active.



Calgary Science Centre Society (TELUS Spark) Civic Partner 2018 Annual Report

Organizational Structure: Independent External Organization

Fiscal Year End: December 31, 2018

Related Subsidiaries or Foundation: None

City 2018 Operating Grant: \$2,212,562

1. Current Vision, Mission and Mandate:

Mission

Spark brings people together to learn, play and create with science, technology, engineering, art and math (STEAM).

Vision

Visitors and the community are transformed by a culture of curiosity, risk-taking and problem solving.

Values

- Collaboration: Spark encourages debate and dialogue, embracing diverse perspectives, and that partnership with the communities results in better ideas and outcomes.
- Curiosity: Spark inspires people to be always wondering, always questioning, always seeking to learn.
- Courage: Spark supports innovative thinking and taking risks. We embrace change. Our courage to fail gives us the confidence to succeed.
- Commitment: Spark is deeply passionate about the positive impact of learning, playing, creating and pursue it in everything we do and in how we do it.

2. What key results did your organization achieve in 2018 that contributed to one or more of the [Council Priorities in Action Plan 2015-2018](#) and created public value? (A Prosperous City, A City of Inspiring Neighbourhoods, or A Healthy and Green City?)

A PROSPEROUS CITY

SPARK WAS PART OF CANADA'S FIRST ELECTRONIC AUTONOMOUS VEHICLE AVAILABLE TO THE PUBLIC

In partnership with the City of Calgary, Spark supported the initiative to become the first location to pilot the launch of *ELA*, Canada's first Electric Autonomous Shuttle Bus available to the public. *ELA* was a month-long initiative beginning on September 30, 2018 running between the Calgary Zoo and Spark. Spark prepared a temporary exhibit featuring a number of autonomous vehicle technologies to inspire and imagine the future of transportation advocating for more education about the autonomous vehicle industry. The City of Calgary and Spark hosted tours with school groups, a post-secondary urban planning class, the Municipal Innovation Conference and robotic classes. Over the 22 days of operation, *ELA* had a ridership of 4,500 people.

The key piece of technology that allowed *ELA* to operate was built in Calgary by NovAtel. NovAtel and Infrastructure Mapping & Autonomy sponsored an temporary technology display at Spark, which allowed Calgary to be viewed as a prominent tech-hub and leading voice in the future of transportation. A New York technology magazine flew out to do a story on NovAtel and the trial of *ELA*.



INSPIRING NEIGHBOURHOODS

Spark believes in access and inclusion for all and continues to be a critical component of a Prosperous City. In 2018, the Community Connections program consisted of 48 community partners representing a large cross-section of social service agencies across Calgary. The utilization of the program resulted in more than 12,724 visits from individuals who may not otherwise have the opportunity to access the world of science, technology, engineering, arts and math (STEAM) at Spark.

In 2018, Spark continued to work closely with the CBE, CCSD and Siksika school boards to provide transportation and educational opportunities to more than 3,000 at-promise students during the school year. The program culminates with a Family Science Night where all participating students, their families and teachers come to Spark for a free private function where students can share their learning experiences and a meal with their families. In 2018 over 1,550 students and their families attended this event.

Camperships initiative provided free day-camp spots to children in the community who would not otherwise have the ability to participate in day camps. In 2018, 20 campers came to Spark to participate in Spark's popular Summer Camps through this initiative.

Finally, TELUS Spark is part of the Cultural Access pass program that provides admission to new Canadians. In 2018, more than 3,591 new Canadians were able to come and enjoy Spark.

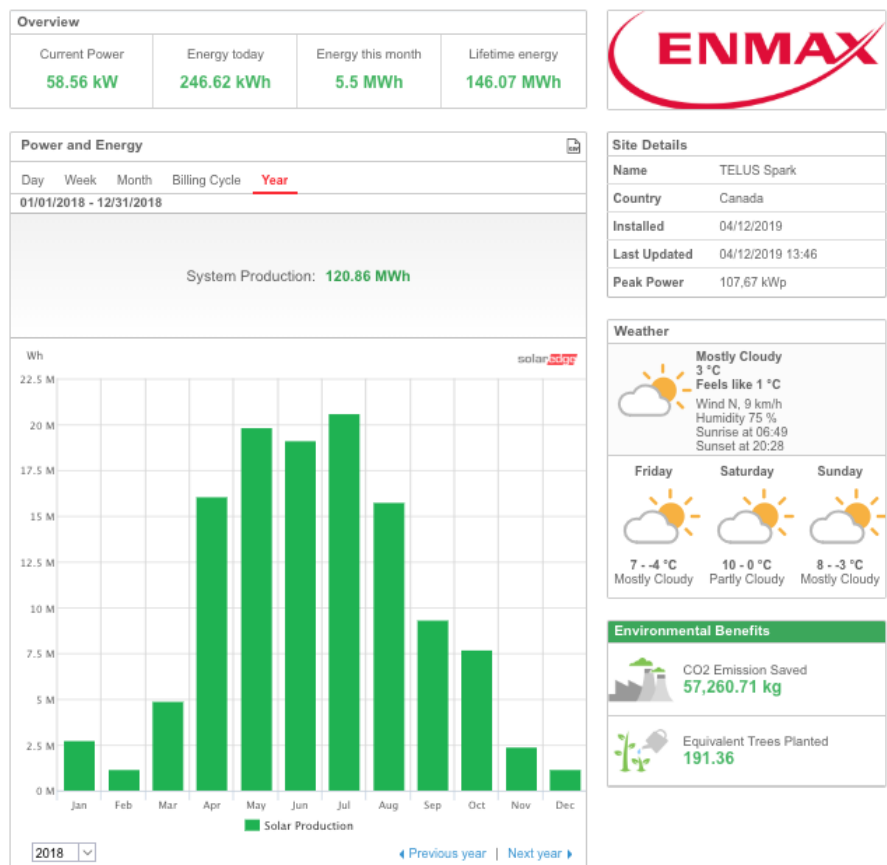
Spark's unique school programs bring together Science, Technology, Engineering, Art and Math (STEAM) in ways that are transformative for youth. For example, 600 students attended the Prototype Project, a

semester-long program that develops critical thinking, problem-solving, and collaboration skills with experiential learning that prepares students for the real world. Another 684 students attended Chevron Open Minds Science School at Spark. Open Minds is a week-long experience that provides students with the opportunity to explore, experience and develop skills which helps them grow. This journey helps students to develop a passion for science and discover the areas that excite them. In addition, there were 1510 school workshop bookings, 72 demo bookings, and 1186 students watched a live-stream of a knee surgery through Spark's program Direct From the Operating Room.

In 2018, Spark launched '*Science of Mental Health*' for Grades K-12. This new workshop delves into mental health and its connections with the brain, heart and neurosystem while debunking the historic stigma associated with mental illness. Using emerging innovative technologies, students engage in hands-on activities to recognize the relationship between mental health and physical health to monitor and manage their well-being beyond the classroom.

A HEALTHY GREEN CITY

As a LEED Gold building, Spark is committed to creating a space to spark conversations around clean energy technologies, sustainable living and sustainable energy systems in Alberta. This destination is an inspiring hub for conversations around reducing greenhouse gas emissions and energy efficiency and intend to continue encouraging our guests, members, sponsors and donors to find opportunities to foster healthy lifestyles that optimize a healthy green city.



(Solar Panels, 2018 data)

Special 2018 initiatives include:

- Partnered with the City of Calgary's Climate Change Symposium to host two world renowned climate communicators, Katherine Hayhoe and George Marshall as an extension of climate change conversations.
- Designed and showcased exhibits and temporary technology displays related to critical and relevant energy topics to Albertans generating family conversations around energy transitions.
- Collaborated with the City of Calgary and other community partners to become the first location to pilot the launch of *ELA*, Canada's first Electric Autonomous Shuttle Bus available to the public.
- Funded as part of the Community Environment Action grant from the Government of Alberta, Spark launched *Rethink Your Street*, a permanent future-focused exhibit on local transportation. This exhibit was designed to spark conversations around how people's movements affect our city and challenges visitors to design and consider their own modes of transportation and how it impacts the environment.
- Designed and showcased a "made-in-Alberta" display featuring fibre optics as one of the technologies that can identify leakages in pipelines.
- Celebrated our rooftop solar panel installation during Green Great Britain Week with a visit from the British Consulate - General, Calgary to emphasize the importance of clean economic growth. The environmental benefits of these panels resulted in over 57,000 kg of CO2 emissions saved, which is the equivalent of 190.84 trees planted.
- Completed Phase 1 and Phase 2 of the City of Calgary's Climate Change Education Plan. This comprehensive education plan will chart a path to inform, educate and mobilize Calgarians in to climate education and will be included in Calgary's Climate plan. This project could constitute an important tool for engaging Calgarians about climate action.
- We are committed to continue our work on green energy and alternative energy sources and have been working with ENMAX to develop a solar energy battery display in 2019.

Spark is one of the key partners of the Alberta Narratives Project (ANP). ANP is a public engagement that builds skills and better communications to talk about climate change and the oil and gas industry in non-polarized ways while reflecting on shared values and identities of Albertans.

We intend to continue to build strong relationships with strategically-aligned community partners in the community like ANP and including, but not limited to *Energy Disruptors*, *Alberta Ecotrust Foundation*, *Canadian Energy Pipeline Association*, *CAWST (Centre for Affordable Water and Sanitation Technology)*, *Energy Efficiency Alberta*, *ENMAX*, *HiFi-Engineering*, *Infrastructure Mapping and Autonomy*, *Let's Talk Energy*, *NovAtel*, *Pembina Institute*, and *Pacific Western Transportation* as an extension to create more awareness and education around healthy lifestyles and a healthy green city in Alberta.

3. What challenges affected your operations in 2018 and how did you adjust?

In early 2018, it became apparent that trend of lower than expected general paid attendance would prevail throughout the year. We established a risk register to assess the impact of the lower general paid attendance on other revenue streams that we depend on to sustain our business. This allowed us to alter plan expenditures to account for the lower revenues, which ended the year in a surplus of \$97,529 compared to a

loss of \$1,373,403 in 2017. The 2017 the deficit was self-funded by the internal reserves without additional support from the city.

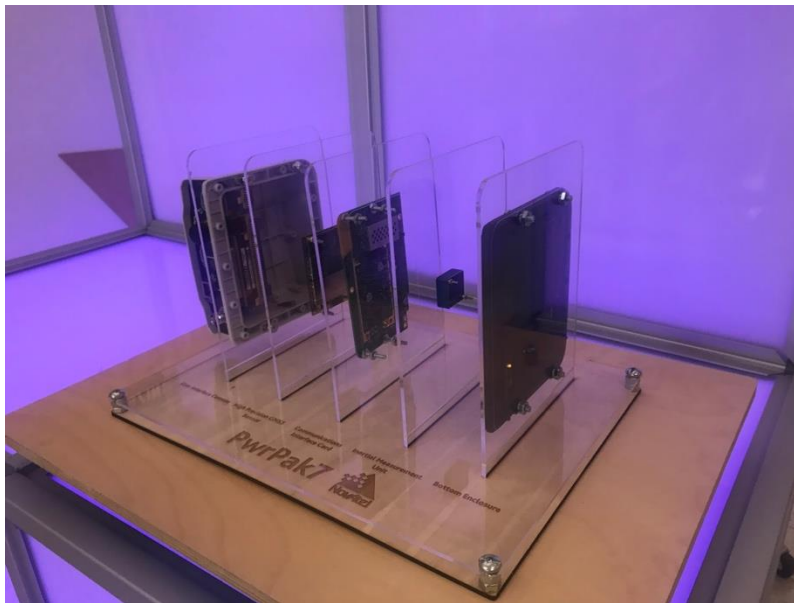
A bright spot to 2018 is that we had a record number of membership sales in 2018. This showed the deep affinity for inspiration and education among Calgarians during an economic downturn. This has led to analysis of and changes to the value proposition for both regular and new attendees. We are excited about future prosperity based on the adjustments we are making.

4. Briefly describe how your key results in 2018 contributed to the following Council approved strategies (as applicable. Please note if you steward the strategy)

Strategy	Key Results
<u>Calgary in the new economy: an updated economic strategy for Calgary</u>	<p>As a leading voice for innovation, Spark developed three displays in 2018 to highlight advancements in technology. Spark is home to leading talent in developing innovative and accessible exhibits driven by the technological advances and adaptation to build a better city.</p> <p>Autonomous Technologies</p> <ul style="list-style-type: none"> Spark partnered with Pacific Western Transportation, the City of Calgary and the Federal Government with sponsorships from NovAtel and Infrastructure Mapping and Technologies to design a representation of how driverless autonomous systems work and how the future of autonomous vehicles as an everyday mode of transportation can educate on renewable energy sources. The display featured two different pieces of technology, LiDAR (Light Detection and Ranging) and GNSS (Global Navigation Satellite System). LiDAR technology uses light to create a 3D map of the car's natural and man-made environments in real-time aiding the driverless vehicle to avoid obstacles and pedestrians. Guests were also able to view the GNSS technology (a more accurate version of GPS for navigation and positioning). These two technologies are essential to guiding the pathway of autonomous vehicles. (See photo below) <p>PwrPak7</p> <ul style="list-style-type: none"> Spark designed a technology display to showcase the different components that make up a GNSS unit which included a user interface console, high precision GNSS sensor, communications interface card and an inertial measurement unit. This display encouraged guests to further explore the potential of autonomous vehicles and its technologies. (See photo below) <p>Fibre Optics</p> <ul style="list-style-type: none"> The oil and gas industry is prudent to the success of Alberta's economic growth. Sponsored by the Canadian Energy Pipeline Association (CEPA) and Hifi Engineering, Spark built an exhibit to demonstrate how fibre optics can identify and detect leaks in a pipeline. This exhibit fostered conversations around responsible energy transitions and showcased how "high-fidelity dynamic sensing" (HDS) can detect extremely low flow and pinhole sized leaks in pipelines. (See photo below)



(Autonomous Vehicle Technologies)



(PwrPak7, ELA Technologies)



(Fibre Optics)

Cultural
 Plan for
 Calgary

Spark is proud to bring Science, Technology, Engineering, Art, and Math (STEAM) to Calgary. Spark aims to contribute to the energetic vibrancy the city offers by partnering with various communities and organizations to make Calgary an exceptional place to live.

Special initiatives include:

- Partnered with Te Papa Tongarewa, the National Museum of New Zealand to bring *Whales/Tohora* to Calgary. *Whales/Tohora* is a unique and exclusive cultural travelling exhibition featuring education on conservation of oceans, whale species and other marine animals.
- Supported the grand opening weekend of the new Central Public Library to elevate the cultural identity of Calgarians and attracting an estimated 20,000 visitors. We engaged guests by developing elevated science experiments for kids of all ages.
- Participated in *Truckstop Circus and Happenings!* in partnership with Arts Commons to activate Olympic Plaza during the summertime.
- Supported science literacy within the community for people of all ages by bringing a customized science program to Beakerhead.

ACCESS PROGRAMS

Spark experiences are accessible to the members of our community who are most in need

Financial hardship should not be a barrier for future innovators to explore educational opportunities in Science, Technology, Engineering, Art and Math (STEAM). The Access Program presented by Crescent Point Energy supports students, families and individuals requiring additional financial assistance in order to access TELUS Spark.

Via our community partnerships, Spark was able to reach thousands of families, students and individuals and provide them with unique, free-of-charge, hands-on educational experiences.

Within the Access Program there are four different initiatives:

Community Connections

The Community Connections Program allows the science centre to partner with local social service agencies and non-profit organizations, providing access to those who may not otherwise be able to visit. By forming longer-term partnerships with other organizations in the community, TELUS Spark is moving closer to achieving our vision of a community transformed by a culture of curiosity, risk-taking and problem-solving. Our mission to be a force for innovation that drives positive change is the cornerstone of this program.

By partnering with local agencies and organizations, we strive to:

- Offer an introduction to a unique recreational and educational community resource
- Offer learning opportunities for people of all ages
- Inspire visitors to seek other learning opportunities based on their experiences at Spark
- Fuel the drive to explore educational opportunities in the areas of science, technology, engineering, arts and math (STEAM)
- Provide access to more people in our community who are typically without the means to fully participate

As a not-for-profit organization ourselves, please keep in mind that we can only consider requests that have a strong connection to our Mission and Vision. Further, we receive a very high volume of applications and, as such, we are not able to support the following:

- Religious organizations (except where they represent non-denominational support services)
- Individuals
- Fully funded Government agencies
- Projects or organizations that are not located within and do not provide a service to Southern Alberta
- Competitive sports teams
- Political parties
- Advocacy or special interest groups

- Schools or parent association

Learning Connections

Learning Connections provides subsidized school programs for students from under-served schools throughout Calgary. The field trips include a school program and bus transportation. Participating schools are identified by the Calgary Board of Education, the Calgary Catholic School District and the Siksika Board of Education. To celebrate the students' learning journey at the end of the school year, participants and their families are invited to a private Family Science Night at TELUS Spark.

Summer Campership

Camperships provide free access to children in the community to attend a week of TELUS Spark Summer camps. Participants are selected in collaboration with our Community Connections agencies. Camperships provide participants with the opportunity to experience a week of STEAM-filled activities at no cost, plus a Camps t-shirt. Cultural Access Pass.

This program is delivered in collaboration with the Institute of Canadian Citizenship. Every new Canadian is eligible to receive a Cultural Access Pass for a year from the date they received their citizenship. The program provides pass holders and their families free access to different attractions and parks within the country. TELUS Spark is one of the participant attractions.

Open Spaces Plan (Calgary Parks')

Junkyard Playground

Operation Explore, Spark's summer program, took a whole new look at risky play. The theme for the summer program was "Kids take the lead" and Calgary's first Junkyard Playground was conceived. The Junkyard Playground was a designated area of the Brainasium where kids were able to play with their parents close-by, but not directly with them. The Junkyard Playground is a space that allows kids to play the way they know best - with lots of fun, endless possibilities and a teaspoon of risk. The play space is like a real-life Minecraft, it's a world that's entirely kid created, resistant to the influence of well-meaning parents or guardians. Kids can build and take things apart using real tools like hammers and saws, all while exploring their limitless imaginations.

Junkyard Playground nominated for a CASCADE award for *Best Program - Large Institution*.

CASCADE Awards are presented by CASC (Canadian Association of Science Centres) to recognize outstanding people, programs and exhibits in Canada's science centres, museums, aquariums, planetariums and makerspaces. The category of *Best Program* is awarded for the best onsite or outreach educational, interpretative, or public program of a CASC member. We are one of four finalists in this category.

Calgary Play Charter

In 2018, Spark was proud to be a signatory of Calgary's Play Charter.



Recreation

Master Plan

SPARK HOSTED 6 DEGREES FOUNDED BY

THE RIGHT HONOURABLE ADRIENNE CLARKSON AND JOHN RALSTON SAUL

6 Degrees is a national charity founded by The Right Honourable Adrienne Clarkson and John Ralston Saul that challenges our unsettled age. It is about what we can do to counter rising nativism and exclusion, and how we can go about doing it. 6 Degrees is about connection, conversation, artistic representation, online engagement, and the power that comes from bringing people together. It is also about language: how better language can make for better thinking; how we can reframe issues to open hearts and change minds.

On April 10, 2018 Spark hosted the conference and it was titled ‘Towards Resilience.’ It was a day full of interactive discussions that sought to find new language, ideas and solutions to arguably the most urgent issue of our time: creating truly inclusive societies.



Calgary Heritage
Strategy

Jane's Walk

On May 6, 2018 Spark participated in Jane's Walk, a walk to honor and activate the idea of Jane Jacobs. Jane Jacobs (1916-2006) was a writer, urbanist and activist who championed the voices of everyday people in neighbourhood planning and city-building. The walk is a community-based approach to city building that uses citizen-led walking tours to make space for people to observe, reflect, share, question and re-imagine the places in which they live, work and play.

Spark's walk was led by staff who educated attendees on our facilities Leed Certification and the history of the land where our facility resides. In addition to our staff, the walk was lead by Kimberly Williams, Associate Professor and Program Coordinator of Women's Gender Studies at MRU, who spoke about the history of brothels on our site.

5. Do you support any Civic Partner approved strategies? For example, Calgary Arts Development Authority's [Living a Creative Life](#), or Tourism Calgary's [Destination Strategy](#)?

LIVING A CREATIVE LIFE

Sundial

Robert Oldrich (Canadian, 1920-1983)

Spark had the unique opportunity last year to install a sculpture with historic significance. *Sundial* By Roert Oldrich is part of the City of Calgary Civic Art Collection, and was located at the former home of the Calgary Science Centre at the Calgary Centennial Planetarium. It had been in storage since construction of the LRT through that area in 2006. It had been conserved by the Civic Art Collection and is now again available to the public. Other large-scale public art installations by artist Robert Oldrich include outdoor murals at both the Central Library (metal) and Glenbow Museum (concrete frieze).

Albertosaurus

Russel Zeid

In 2018, artist Russell Zeid came to Spark to share with the public his adventures and journeys as he designed, created and built Calgary's famous bronze Albertosaurus. The Albertosaurus was popular as the prominent statue in Chinook Centre and is now proudly at home in Spark's outdoor Brainasium. As a STEAM organization, we celebrate the combination of engineering and art.

DESTINATION CALGARY

Spark is a partner in marketing initiatives of Tourism Calgary and is developing enhanced programming and branding to assert itself as a feature tourism destination in 2019 and thereafter.



6. Please estimate how The City's operating funding was allocated in 2018. Mark all areas that apply by approximate percentage. For example, 45% allocated to staffing costs, 10% to evaluation or research, etc.

%	Advertising and promotion
%	Programs or services
40%	Office supplies and expenses
%	Professional and consulting fees
%	Staff compensation, development and training
%	Fund development
%	Purchased supplies and assets
60%	Facility maintenance
%	Evaluation or Research

7. Did volunteers support your operations in 2018? If yes:

How many volunteers?	12,724 Volunteers
Estimated total hours provided by volunteers:	18,192 Hours

8. What resources did your organization leverage to support operations in 2018?

Donations

Spark is fortunate to have a strong network of donors, community partners, and corporate sponsors. The outstanding support and collaboration we receive from our funding network are essential to the sustainability of the organization and amplify our impact with students, families, and corporate guests. Donations and sponsorships are critical components to Spark's ability to innovate and remain relevant in an ever-changing and challenging world. However, with the economic recession our contributed revenue is not at the level desired and we are developing new support strategies and campaigns.

Volunteers

Volunteers play a key role in supporting all Spark activities. In 2018, volunteers contributed 18,912 hours, largely in professional and skilled roles. This continues to help to manage staffing costs and maintaining a high-level guest experience. Many of our volunteers in 2018 joined the organization after losing work to the recession.

Facility Operations

- Donations
- Facility Rentals
- Spark Store
- Paid programs consisting of Adults Only Nights, Sleepovers and Camps

SPARK HOSTED OVER 72,500

STUDENTS AND 1600 CAMPERs in 2018

Camps and Youth Programs

Spark inspires children and youth in many ways including through Spring Break, PD Day and summer camps. In 2018, over 1600 children and youth took part in science, technology, arts and engineering and math camp experiences where they not only had fun but learned through experiential

opportunities about the way the world works.

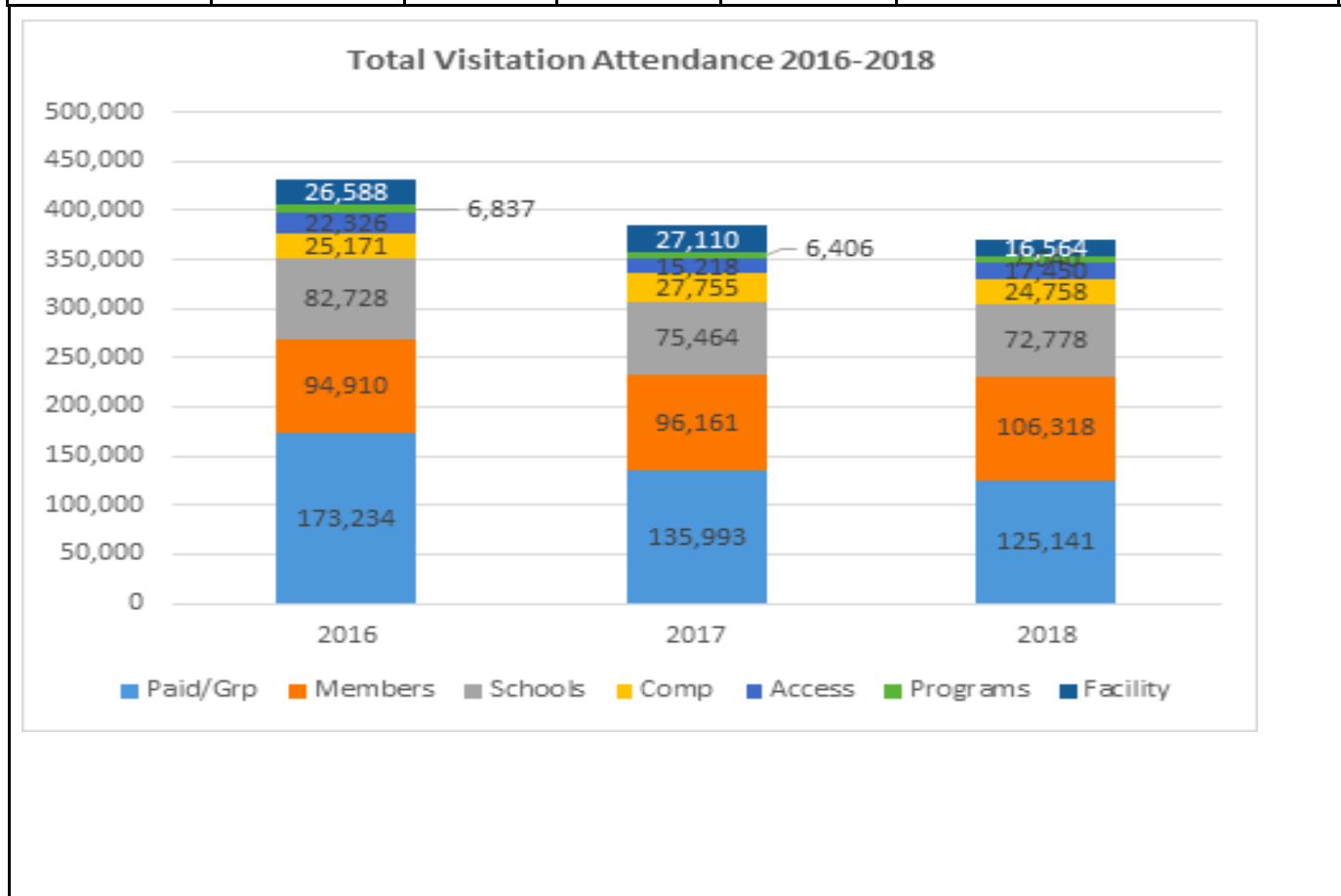
School Programs

Spark is a living lab for innovating in new ways of learning for students of all ages. In 2018, more than 72,500 students and their teachers participated in various workshops, semester long prototype projects, and one-week science school intensives. These students explored science, technology, engineering, art and math concepts that enhanced their learning and augmented their classroom curriculum experiences.



9. Using the chart below, please report your 2018 performance measures that demonstrate: how much you did, how well you did it, and how Calgarians are better off. *Please identify through BOLD font, 1-2 measures that are most significant and could be presented in a chart.*

	Performance Measure	2016 results	2017 results	2018 results	What story does this measure tell about your work
How much did you do	Total attendance	431,794	384,107	370,256	A new roadmap for Spark is under development to reverse this trend.



How well did you do it? SPARK HAS A 4.2 RATING ON GOOGLE

TELUS Spark

220 St Georges Dr NE, Calgary, AB

[Write a review](#)

4.2 ★★★★★ 2,542 reviews ?

Sort by: [Newest](#)



Kristyn Rousseau

Local Guide · 22 reviews

★★★★★ 13 hours ago

This place is seriously fun. We come here often for our little kid to play and it is fantastic. Tonight I had the pleasure to attend one of their Adult Nights; I really recommend it. An evening with a cocktail exploring fun science ... [More](#)

[Reply](#) [Like](#)



Alex Mildenberger

Local Guide · 7 reviews

★★★★★ 13 hours ago

[Reply](#)



Dianna Ripley

3 reviews

★★★★★ 17 hours ago

It is very hands on. My two little ones are 3 and 5 years old. The Circus theme was interesting although not throughout the whole center. With a short lunch we did spend 4 hours there and only maybe 15mins or so in the play place area. The ... [More](#)

[Reply](#) [Like](#)



Hanna Al-Hage

★★★★★ 18 hours ago

← Reply



isoseeker vertu

Local Guide · 74 reviews · 60 photos

★★★★★ 18 hours ago

Good place to get little kids interested in science. Many types of activities for them to be engaged with rather than watching their tablets. Exhibits seem slow to change over and can get boring if you go back and the same ones are still ... [More](#)

← Reply  Like



Zelicious Gamer

Local Guide · 29 reviews · 9 photos

★★★★★ 22 hours ago

A decent STEM and exploring destination for kids and families. One of the most popular places for field trips in Calgary. The tickets might get a little pricy. Not a lot of food options, only one restaurant/fast food bar, it is recommended ... [More](#)

← Reply  Like

How are Calgarians better off?

Visitors to Spark come to “learn, play, and create”, which differentiates Spark from other attractions. Independent research from King’s College indicates that families with high “science capital” have a higher likelihood that children will choose a STEM career. This is exactly what Calgary needs right now. Spark’s impact in the innovation ecosystem is solid and will be expanding actively in 2019. Spark’s impact on the family unit is a vital element in cultivating long-term economic stability and the crucial tech-savvy workforce. In addition, Spark will be playing a greater role in attracting and reflecting the science culture taking root in emerging and mid-career adults. .

Calgarians have voted consistently via the Calgary’s Child Awards including:

1. Best place to take your kids on a crummy day
2. Best museum for families

10. CAPITAL AND ASSET MANAGEMENT (for applicable partners)

Asset: *Insert Name of City owned asset managed or operated*

- a) **Provide a summary of your organization’s 2018 capital development, including specific lifecycle/maintenance projects.**



b) What funding did your organization leverage to support capital activities in 2018?