

Funicular Year-in-Review
2019

Edmonton

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INTRODUCTION

With the help of the River Valley Alliance, provincial and federal governments, the 100 Street Funicular opened to the public on December 7, 2017. The project cost a total of \$24 million. Since opening, the funicular has increased access to the River Valley for Edmontonians and visitors and has created a landmark and connection between downtown and the River Valley. While the funicular is the prominent feature of the site, the project also includes the development of stairs, viewpoints, pedestrian bridge, artwork and an elevator.



USAGE

The funicular has proven to be a popular destination, with site observations and user feedback all indicating it is heavily used throughout the day. Indicators of the popularity of the funicular are identified below.

In 2019, the funicular made a total of 110,524 trips, either up or down the track. Since opening, the total number of trips the funicular has made is 228,448.

On June 5, 2019, a pedestrian counter was installed on the promenade. From June 5 - Dec. 31 a total of 219,387 counts were registered. Analysis of this data shows:

- The site is busiest during lunch hour on weekdays, and 2 pm - 4 pm on weekends
- Citizens enjoy the site outside of the funicular/elevator hours, however, use of the site outside of park hours (11 pm - 5 am) is minimal
- The highest monthly count was in August at 49,423, and the lowest monthly count was in December at 12,340 counts.
- The daily average over the 6 months was 1025 counts

OPERATIONS

The funicular is open daily between 7 am and 9 pm which generally aligns with other amenities in the River Valley. The stairs, bridge, lookout and park space are open during park hours, between 5 a.m. to 11 p.m. In 2019, the hours of operation were extended for the Edmonton Folk Music Festival and reduced for Christmas Day and Boxing Day.



INCIDENT RESPONSE

The funicular has three types of response procedures. One for the funicular itself, one for the elevator and one for the rest of the site. The elevator and site procedures are similar to others around the city. The funicular procedures are unique and require City staff to respond to all funicular alarms to troubleshoot and resolve issues related to system failures, door malfunctions and mistakenly pressing the emergency stop button. In all procedures, 911 is contacted if there are any emergencies. The 2019 monthly alarm counts are summarized below with comparisons to 2018.

Month	Funicular System Failures		Funicular Emergency Stops		Funicular Door/Wind/Overload		Elevator Emergency		Site Emergency	
	2019	2018	2019	2018	2019	2018	2019	2018	2019	2018
January	8	25	3	24	7	6	0	1	0	0
February	17	20	1	13	4	10	0	2	0	0
March	27	12	1	25	0	4	0	5	0	0
April	28	7	4	30	1	7	0	2	1	0
May	6	4	6	56	8	4	0	0	1	0
June	0	1	5	33	11	1	0	0	0	1
July	5	6	4	38	5	8	0	0	0	0
August	15	5	3	23	0	10	0	0	0	0
September	8	7	2	25	0	24	0	2	0	0
October	5	15	4	31	4	15	0	2	1	0
November	5	2	3	8	0	9	0	4	0	0
December	8	3	3	1	2	1	0	0	0	0
TOTAL	132	107	39	307	42	99	0	18	3	1

Staff responded to approximately 215 alarms in 2019

- 18% of alarms were a result of users pressing the emergency stop button. These incidents result in temporary stoppages until the system can be reset. There was a significant decrease in emergency stop button incidents in 2019 as compared to 2018.
- About 20% of alarms were a result of door malfunctions, heavy winds or overloading. The majority of incidents were due to door issues including ice and snow buildup, timing, or sensor problems. These incidents resulted in temporary stoppages until the issue was investigated and resolved.
- 61% of alarms were system failure alarms which include a wide variety of possible issues that the system detects. Some incidents cause a temporary stoppage of the funicular, and some incidents do not. There was an increase in the number of system failure alarms in 2019 as compared to 2018, due in part to programming changes in the funicular system.

When compared to the first year of operation, this represents a decrease of 61% in alarms. This significant decline is attributed to:

- Positive impacts of the infrastructure improvements made in December 2018.
- Emergency stop button modifications, including a cover to prevent children or patrons from playing or accidentally pressing.
- Continued training courses with maintenance staff.
- Improvement in reporting and diagnostic practices for more efficient response and issues resolution.
- Increased user knowledge and familiarity with the system resulted in fewer user errors.

OUTAGES AND SHUTDOWNS

Planned Maintenance

To meet regulatory requirements specified by Alberta Elevating Devices & Amusement Rides Safety Association (AEDARSA), the City is required to follow a rigorous preventative maintenance and inspection process. This requires a monthly eight-hour shutdown and an annual three-day shutdown. Overall, planned maintenance activities resulted in service disruptions for eight or more hours on 16 days in 2019.

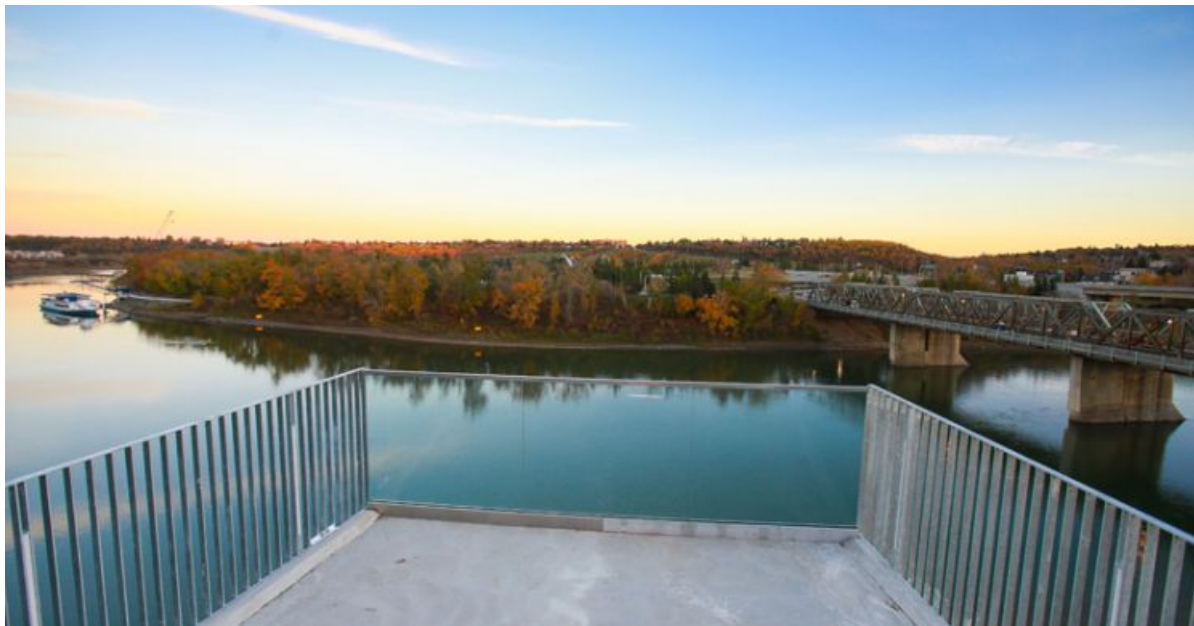
Unplanned Maintenance

There were additional unplanned maintenance and repair requirements that occurred throughout the year. This resulted in some additional service disruptions of four hours or more on 3 days in 2019 as outlined below. This represents a decrease in substantial disruptions from 2018 where there were impacts on 10 days.

Date	Issue	Length of Service Disruption
April 8	Door issues	4 hours
May 28	Door Issues	6 hours
September 6	Funicular stopped on track	5.5 hours

Operational Costs

The 2019 operating costs for the 100 Street Funicular and surrounding site were \$581,524, which represents an 18.8% decrease from the first year of operation. The original forecasted annual operating budget for the Mechanized River Valley Access project was a range of 2 to 4% of the total project cost or \$480,000 to \$960,000 annually. The 2019 operating costs remain in this forecasted range, at 2.4% of the original project budget.



City Team	Item	2018	2019
Facility Maintenance Services	Preventative Maintenance and Daily Start Up	\$345,483	\$367,815
	Corrective Maintenance	\$5,154	\$4,357
	Emergency Breakdown Response and Repair	\$59,054	\$23,085
	Non-emergency Breakdown Response and Repair	\$112,64	\$26,687
	Other maintenance, support, modifications	\$8,054	\$0
	Elevator Maintenance Costs	\$12,927	\$8,818
	Custodial Services	\$31,186	\$41,767
River Valley Parks and Facilities	Site services and monitoring	\$90,117	\$31,369
	Security guard support	\$6,536	\$3,663
	Utilities	\$11,199	\$20,623
Infrastructure Operations	Snow Clearing	\$34,118	\$53,340
	Horticulture, turf, tree maintenance*	\$0	\$0
TOTAL		\$716,468	\$581,524

* landscape elements remain under contractor responsibilities as part of maintenance/warranty period

PUBLIC ENGAGEMENT

The City has continued collecting and listening to the public's feedback on their funicular experiences via 311 and social media.

311 Inquiries

In 2019, 311 received 121 comments that were forwarded to teams for follow up. The nature of these calls can be summarized below:

- 76% reported information to the City regarding site conditions
- 13% were general inquiries about the site.
- 10% provided general feedback regarding their experiences, both positive and negative.

Social Media

The funicular continues to be a popular Edmonton landmark on social media. In 2019, funicular posts generated 144,263 impressions on Twitter and 50,394 on Facebook. Citizens and tourists continued sharing their experience using #yegfunicular. Throughout 2019, we continued raising awareness of the online notification tool as a way to stay updated on the funicular and any expected and unexpected outages and shutdowns.

ENHANCEMENTS

During the months of December of 2018 and January 2019, the City made enhancements to improve the operations, safety and accessibility of the funicular and site. A sample of some of the enhancements are as follows:

- Installation of a heating loop in the door sill to prevent ice formation at the lower doors
- Installation of a glass roof over the lower doors to help reduce issues during winter weather
- Installation of surface raised markers, handrails, and graphic signage at the staircase for people with visual impairments
- Modified bike rails on the urban stair and elevator staircase to improve use

NEXT STEPS

Over the next year, City staff will continue to proactively manage the funicular by seeking operational efficiencies and internal process improvements. Engagement and communication with citizens will continue, and the City is working to improve public notifications related to planned and unplanned outages.