



2020

ENVIRONMENTAL 
PROGRESS REPORT

G R O W I N G A C L E A N , G R E E N & H E A L T H Y L E D U C

PARTNERING with *nature* 

CITY OF
Leduc 

together...

City Stewardship

Environmental compliance audits are one of many tools employed by the City to protect our natural spaces and promote sustainable practices.

As part of the audit process City facilities have been categorized as low, medium, and high-risk and are evaluated for compliance against applicable federal, provincial, and local environmental legislation.

The City audited 21 facilities in 2020, including several low risk facilities that had not previously been audited. Findings show that the City has satisfactorily managed all of its high-risk environmental obligations and recommendations for improvement are being reviewed and implemented where possible.

Despite global challenges faced in 2020, the City continued to demonstrate its dedication to environmental stewardship through a number of other initiatives:

Civic Projects

(ie. Fleet Vehicle Updates, Eco-Friendly Ice Control)

GHG Reduction Actions

(ie. High Density Housing, Reduce Organics Contamination)

Natural Area Enhancement

(ie. Pollinator Habitat, Wetland Restoration, Tree Planting, Education/Signage)

Energy Conservation

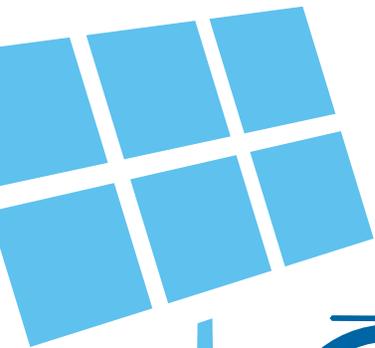
(ie. Solar Panels, Lighting Retrofits)

Alternative Transportation

(ie. Transit, Biking, Walking)

Waste Diversion Initiatives

(ie. Recycle Coach, Eco Station)



Less is more...



DID YOU KNOW?... the City undertook an environmentally-friendly ice control and road maintenance pilot project on Black Gold Drive to test the use of beet juice instead of the standard sand/salt mixture.



CIVIC PROJECTS

PUBLIC SERVICES:

- purchased a third mini-truck with an efficient 0.6 litre engine
- purchased a self-propelled road patcher that requires two engines instead of the previous three
- expanded on our beet juice anti-icing agent pilot project to include pickling of winter sand with beet juice



UTILITY SERVICES:

- water reservoir pumps were downsized from 200 to 150 hp motors while maintaining the same flow capacity for energy savings
- implemented a City-wide water metering project that promotes leak detection to 98% of our customer base

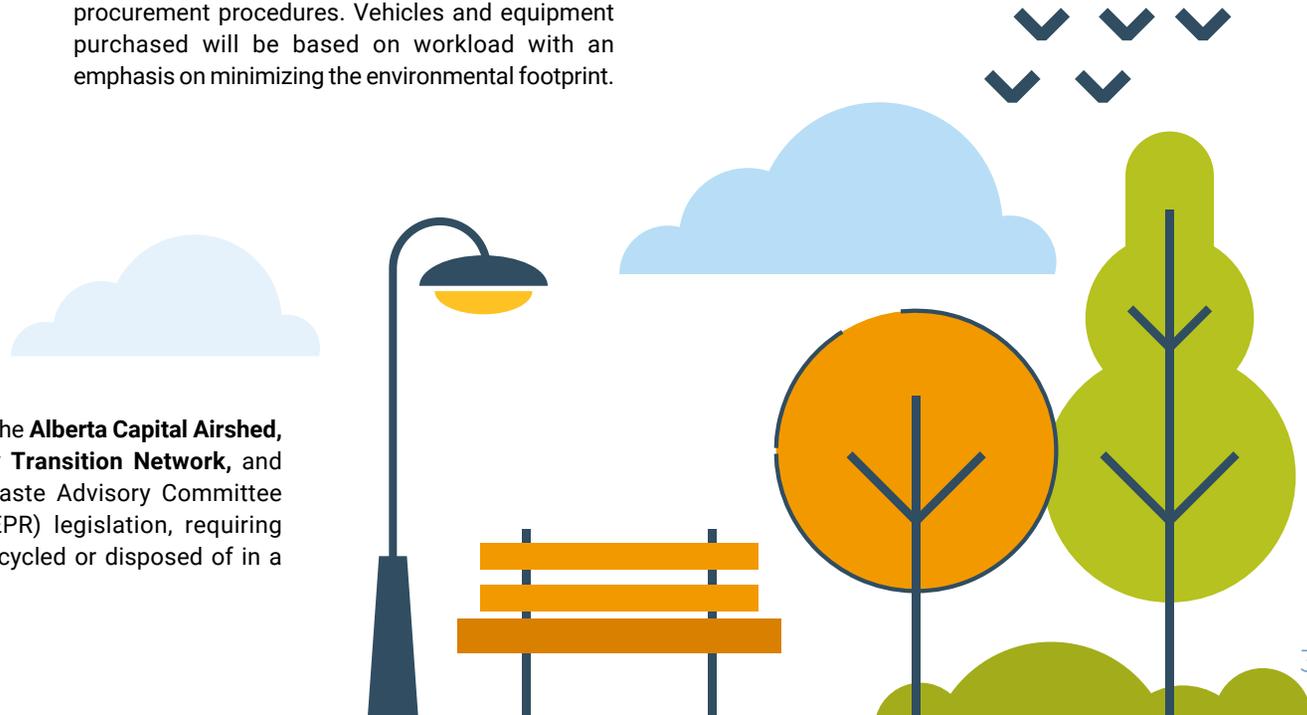
FLEET SERVICES:

- incorporated right-sizing principles into fleet procurement procedures. Vehicles and equipment purchased will be based on workload with an emphasis on minimizing the environmental footprint.



2020 REGIONAL INITIATIVES

Environmental services staff again represented Leduc on the **Alberta Capital Airshed, Capital Region Municipal Sustainability Group, Energy Transition Network, and Edmonton Region Waste Advisory Committee**. The Waste Advisory Committee is advocating for extended producer responsibility (EPR) legislation, requiring producers to take responsibility for their goods to be recycled or disposed of in a more environmentally responsible manner.



GREENHOUSE GAS GHG Reduction Action Plan

... for a greener, cleaner Leduc.

The City of Leduc Greenhouse Gas (GHG) Reduction Plan offers a roadmap for actions to reduce the City's emissions and a baseline to measure the effectiveness of the actions undertaken annually.



Approved emission reduction targets

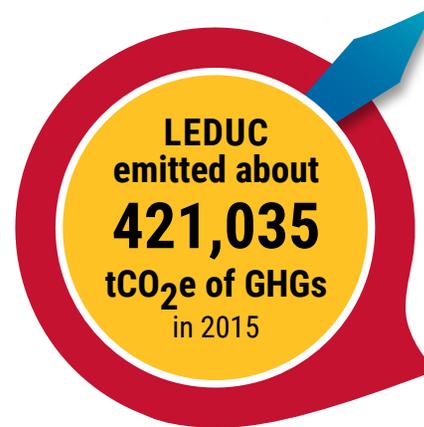
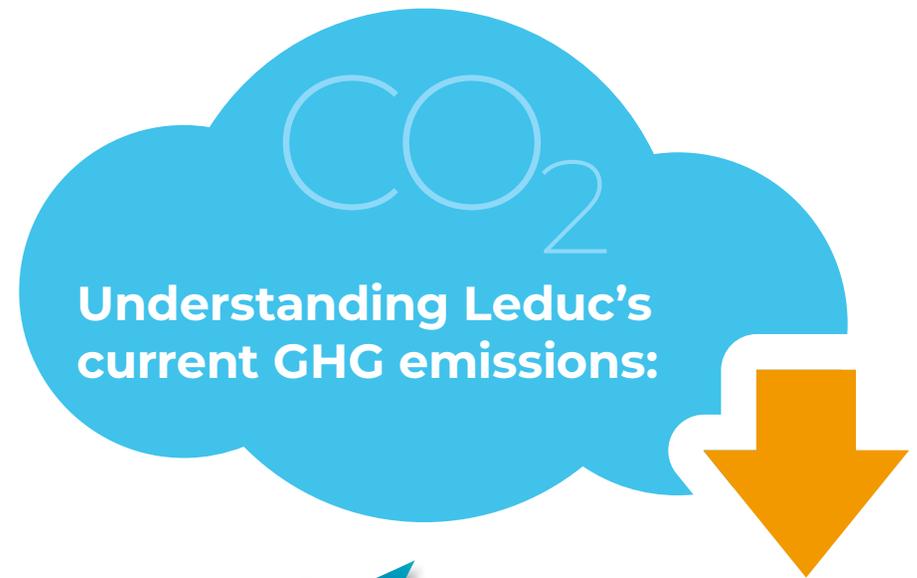
Council approved a GHG emissions reduction target of **3% BELOW** business-as-usual by 2030, however additional actions to further reduce emissions continue to be kept on the radar as applicable budget and grant funding becomes available.

CORPORATE TARGET:

8% reduction from 2015 by 2030 (equivalent to 20% reduction below business-as-usual forecast).

COMMUNITY TARGET:

6% above 2015 by 2030 (equivalent to 3% reduction below business-as-usual forecast).



4% City of Leduc (16,400 tCO₂e)

Emissions come from building construction and operations, lighting, vehicles, sewage and solid waste.

96% Community (404,700 tCO₂e)

Emissions come from commercial and residential buildings, vehicles, industry and solid waste.

There are no new incremental costs associated with the approved 3% reduction target.



Approved actions to reduce GHG emissions taken in 2020

Every year the City strives to meet goals laid out in GHG Reduction Action Plan.

Energy sector actions

- ✓ **Install solar on the Eco Station and the Protective Services building. DONE.**

The installation of 266 solar panels between the Eco Station (44 panels) and Leduc's Protective Services Building (222 panels) took place in 2020 with funding support from the Municipal Climate Change Action Centre Alberta Municipal Solar Program (AMSP).

Land use actions

- ✓ **Encourage infill and high-density housing downtown, in commercial zones and along transit routes. DONE.**

The City of Leduc amended the Land Use Bylaw 809-2013 in September of 2020 to allow Secondary Suites as a Permitted Use and enabled a more simplified process for developers, builders, and homeowners.

Buildings actions

- ✓ **Energy efficient retrofits of existing civic facilities. DONE.**

In 2020, the LRC received a complete LED lighting retrofit and redesign as part of the Municipal Climate Change and Action Centre's Recreation Energy Conservation (REC) program. Other Civic facilities that have been converted to LED include: the Chamber of Commerce, Civic Centre, Kinsmen Community Centre, Cultural Village, Telford House, Alex Pool, and one of the Fire Halls.

Also under the REC grant program, REALice Technology was installed at the LRC in 2020 creating an energy efficient way to flood ice surfaces using cold water instead of hot.

Waste actions

- ✓ **Reduce organics contamination with implementation of green bin inspections. DONE.**

Residential green bin inspections took place in the fall of 2020, and bins with contamination were issued a warning sticker and not collected.

- ✓ **Create Recycle Coach app to support residents with waste diversion. DONE.**

In 2020, the City rolled out Recycle Coach – a new and improved waste sorting and collection calendar app.

The program is customizable and offers users support and sorting information to enhance their recycling experience and improve residential waste diversion.



Healthy air quality exceeds provincial objectives according to the air monitoring program at the dog park. Leduc's average annual nitrogen dioxide (NO₂) reading in 2020 was **3.6 parts per billion (ppb)**, well below the annual Alberta Ambient Air Quality Monitoring Objective (AAQMO) of 24 ppb and lower than the ACA regional monitoring passive average of 4.9 ppb. The average monthly sulphur dioxide (SO₂) reading in Leduc is 0.8 ppb, **well below the annual Alberta Ambient Air Quality Objective (AAAQO)** of 8 ppb, but slightly higher than the ACA regional monitoring passive average of 0.7 ppb.

Natural Areas

Program development & implementation



Backyard Bees & Hens Pilot Program

The Hens and Bees Pilot Program, approved by Council in 2019, offers up to 10 households the opportunity to keep hens or bees in their backyard. The intent of the program is to offer participants a rewarding experience centered around enhanced personal food production and a strengthened connection to nature. An information session held in March of 2020 garnered a great deal of community interest and support. Applications opened in early 2021.



Utility Boxes Feature Leduc Natural Areas & Wildlife

Utility boxes around the City were wrapped with nature photos to improve aesthetics and highlight native plant and animal species found in Leduc.



Pollinator Garden

For the fourth and final year, Leduc Environmental Advisory Board (LEAB), The City of Leduc, Leduc-Nisku Rotary Club and Communities in Bloom Leduc organized the planting of pollinator-friendly bushes, shrubs and trees at the Leduc Pollinator Garden near the Telford Lake Community Gardens. Planting was made possible with support from Tree Canada and Pembina and was executed by City of Leduc staff to mitigate risks associated with COVID-19. This four-year initiative has improved pollinator habitat, helping pollinator populations flourish and community gardens thrive.



Pollinator Garden Challenge

Creating gardens and landscapes that provide food, water and safe shelter for pollinators can help boost pollinator populations and enhance natural plant biodiversity. Leduc joined this North American wide initiative in 2018 and continues to promote this in the community.

REGISTRATIONS: 2018 **73** 2019 **40** 2020 **10**

Naturalized Area Signage

Designated "naturalized areas" around the City had signs installed to highlight the benefits of tree stands and no mow zones, some of which include: cleaner air, cleaner water, improved pollinator habits, enhanced wildlife corridors, and cost savings with reduced maintenance.



TREE PLANTING

Although a public arbor day was not possible in 2020 due to the pandemic, the City planted 57 mature trees near Lion's Park to help further naturalize the area.



	BIRD COUNT Spring		Christmas	
	# Birds	Bird Species	# Birds	Bird Species
2017:	1,489	94	473	26
2018:	2,368	108	678	25
2019:	1,281	103	1,071	25
2020:	3,254	135	1,255	32



environment

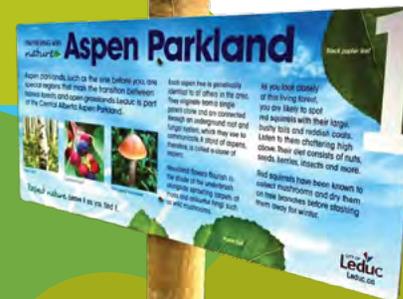
Telford Interpretive Signage

- As Leduc's largest natural area, Telford Lake boasts significant habitat for a variety of species and serves as a popular recreational anchor for the community.



- Telford Lake is located within the Parkland Natural Region and marks the start of a wildlife corridor that extends to Saunders Lake in Leduc County.

- The Telford Lake Multiway was completed in October 2019 and completes an 8.2 km loop around Telford Lake, adding to the existing approximately 70 km of multiway trail in the City of Leduc.
- In August 2020, ten interpretive signs were installed along the trail to help users learn more about the diversity of species they are likely to encounter and their natural habitats.
- Visitors embarking on the interpretive tour should start their journey at the Leduc Boathouse or Leduc Lions Park.



Wetland

Replacement Program

Wetlands are a vital part of our ecological landscape.

Land use changes associated with industrial development and human settlement have led to the loss, degradation, and fragmentation of wetland habitat in and around Alberta.

Alberta Environment and Parks' Wetland Replacement Program offers funding to municipalities across the region to replace and restore wetland habitat.

Due to its proximity to the trail and visibility from Telford Lake, the wetland will provide a unique opportunity to engage, inspire, and educate visitors on the ecological benefits of wetlands, which include:

In 2020, the City of Leduc was approved for funding to restore approximately 0.4 hectares of wetland just north of Telford Lake; an area that was historically drained for agricultural use.

Planning, design, and construction were completed by November 2020 and vegetation planting is scheduled for 2021.



**storing
carbon**



**protecting
water
quality**



**preventing droughts
& controlling floods**



**stabilizing
banks &
preventing
erosion**



**improving biodiversity by providing
aquatic & terrestrial habitat for wildlife**

future



Waste Diversion

sort SMARTer

Recycle Coach

The City's new, improved – and free – waste sorting and collection calendar app, gives residents easier ways than ever before to sort smarter. Recycle Coach is a customized, updated app that works on both Android and Apple platforms and offers users:

- sorting information to properly recycle or dispose of items,
- customized collection calendars by address,
- optional collection reminders by phone, text or e-mail,
- a tool to report issues such as missed collections,
- news and alerts about Leduc's waste management programs, events and more, and
- things you need to know about recycling.

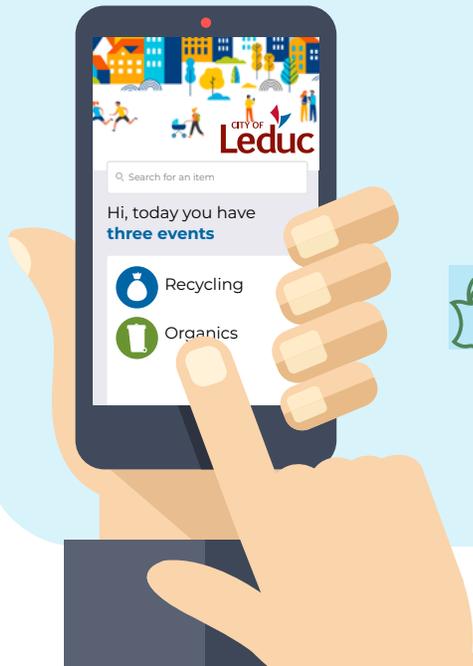
Recycle Coach also offers a web browser option, which can be accessed at leduc.ca/recycle-coach.



DID YOU KNOW?...

2,000+ users in the first year of operation (2,103 app users including mobile and website users).

19,000 material searches completed between March 2020 and March 2021.



A-Z Sort Smart Database online at Leduc.ca



Top items searched: plastic bottles, glass bottles, plastic shopping bags, styrofoam containers.

ECO STATION

Larger, greener, more services, even more convenient



Leduc's Eco Station received the 2020 Collection Site Award of Excellence in the large category from the Alberta Recycling Management Authority (ARMA). The Station was commended for its unique layout and exemplary staff and has been recognized as a leader in the management and excellence of recycling services.



Despite being closed for two weeks in response to the COVID-19 pandemic, visits in 2020 surpassed those in 2019 with a total of **44,767 visits**.

Leduc residents accounted for 77% of visits, Leduc County 21%, and Beaumont 2%.

You can now [tour the Eco Station virtually](#) through our website.



	VISITS	BLUE BAG RECYCLABLES TONNES	CARDBOARD TONNES	ELECTRONIC WASTE [†] UNITS TONNES	HOUSEHOLD HAZARDOUS WASTE [‡] LITRES	USED OIL LITRES	TIRES	GLASS (KG)
2016	27,995	302	28.93**	3,447 59.3	90,645	N/A	N/A	N/A
2017	27,666	133	N/A	3,499 63.8	99,354	N/A	N/A	N/A
2018	30,512	147	N/A	3,300 62.7	101,272	N/A	N/A	N/A
2019	40,592	138	N/A	3,715 69.2	112,814	31,745	862	444
2020	44,767	20	N/A	3,893 51.3	99,610	2,910*	37*	1,662

* LIMITED DATA AVAILABLE IN 2020 DUE TO COVID-19 ** COMPACTED CARDBOARD ONLY



DID YOU KNOW?...

The new Eco-Station building was furnished with the environment in mind, showcasing a variety of functional products that give recycled materials a new life. The facility also boasts a 44-panel solar array on the roof that offers enough energy to power the entire station making it the second net zero facility in Leduc.

CR PLASTICS PICNIC TABLE & BENCH



Made of **100%** recycled plastics.



CHOP VALUE ARTSHELF



Made out of **2400** recycled wood and bamboo chop-sticks.



ODGER CHAIR



Made of **30%** renewable wood and **55%** recycled plastic.



EMECO TABLE



Made of **80%** recycled aluminum from cans, pans, computer parts and golf clubs.



SOLAR PANELS



Net zero footprint

MIRRA TASK CHAIR



42% recyclable parts

A responsible, sustainable chair that is **96%** recyclable itself.



BREATHE LIVING WALL



Living walls improve indoor air quality, alleviating HVAC loads.

Studies have shown some plants reduce VOCs by **75%**



HADRIAN LOCKERS



Made of **36%** post-consumer and **14%** pre-consumer recycled content.

GRAPEVINE PLANTER



Made of **reclaimed** pine wood from recycled pallets.

REFOREST CHAIR AND SIDE TABLE

Made with **100%** bamboo with a natural beeswax polish and **100%** natural latex foam with natural and recycled fabric chair padding.



SORTING STATIONS



Made from **97%** recycled HDPE.

WINDOW COVERINGS



Woven from **89%** recycled polyester.

Produced from recycled water bottles and plastics. At the end of its life cycle, it can be fully recycled back into yarn.

Pitch-in Week

Six clean-up events were held in April of 2020 by:

- École Leduc Estates School
- École Leduc Junior High School
- Covenant Christian School (CCS Clean up Crew)
- Leduc Wildlife Conservation Society (LWCS)
- Leduc Central Interact Club (Rotary Club)
- Leduc Naturalists Society



Curbside ORGANICS*

* INCLUDES CHRISTMAS TREES PICKED UP BY SPECIAL COLLECTION
* CURBSIDE SERVICE STARTED IN SEPTEMBER 2012

	2016	2017	2018	2019	2020
MATERIAL COLLECTED (TONNES)	2,675	2,802	2,564	3,165	3,136
PER HOUSEHOLD (KG)	319	323	291	343	336

Curbside BLUE BAG RECYCLABLES

	2016	2017	2018	2019	2020
MATERIAL COLLECTED (TONNES)	1,197	1,126	1,250	1,211	1,125
PER HOUSEHOLD (KG)	143	130	142	131	119

Curbside WASTE COLLECTION

	2016	2017	2018	2019	2020
MATERIAL COLLECTED (TONNES)	3,683	4,005	3,926	4,088	4,026
PER HOUSEHOLD (KG)	440	462	445	443	427

% Residential curbside diversion



○ LEDUC POPULATION ■ CURBSIDE BLUE BAG RECYCLING ■ CURBSIDE ORGANICS



ENERGY CONSERVATION

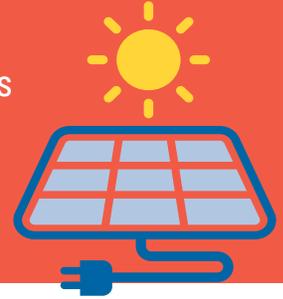
Reducing our Carbon Footprint

The Leduc LRC & Operations Building solar project, remains a foundational energy conservation program, contributing to GHG emissions reduction, operational fund savings and enhancing Leduc's environment.

To continue making meaningful progress towards its GHG Reduction Action Plan, Leduc has expanded its solar initiative in 2020 by integrating solar power into some of its other civic facilities.

DID YOU KNOW?...

Solar panels installed on the Protective Services building will produce enough power to account for 16 percent of the facility's total electricity consumption.



Grant funding from the Municipal Climate Change Action Centre, on behalf of their Alberta Municipal Solar Program (AMSP), supported the installation of a 44-panel solar array on the roof of the Eco Station and 222 panels on Leduc's Protective Services facility.

The Eco Station array offers enough energy to power the entire station, making it the second net zero city facility in Leduc. With a minimum 25-year lifespan, the system will pay for itself after 14 years (2033) and have positive cash flow thereafter. The annual greenhouse gas offset is over 10 tonnes.

Solar Initiatives



	ENERGY GENERATED (MWh)	EQUATES TO NUMBER OF HOMES POWERED	OPERATIONAL SAVINGS	GREENHOUSE GASES (GHG) REDUCED (tonnes CO ₂ e)*	EQUATES TO VEHICLES OFF THE ROAD	EQUATES TO NUMBER OF TREES PLANTED
2019	1,515	= 210	\$160,000	864	= 188	= 14,249
2020	1,520	= 211	\$139,671	866	= 188	= 14,296
<small>* carbon dioxide equivalent</small>						
2020	16	= 2	\$1,494	9	= 2	= 150
<small>* carbon dioxide equivalent</small>						

IMPROVING OUR Energy Efficiency

In 2020, the LRC received a complete LED lighting retrofit and redesign. Every lighting fixture in the facility was upgraded with an LED equivalent, and several lighting areas were redesigned to foster better, more efficient lighting. Funding contributions from the Municipal Climate Change Action Centre (MCCAC) were generously provided to this project through the Recreational Energy Conservation (REC) program. **The project is expected to save \$67,844 and 593 tonnes in GHG emissions, annually.**

Other Civic facilities that have been converted to LED include: the Chamber of Commerce, Civic Centre, Kinsmen Community Centre, Cultural Village, Telford House, Alex Pool, and one of the Fire Halls.

Additionally, REALice Technology was installed at the LRC creating an energy efficient way to fill arenas. The technology uses lower water temperatures to flood the ice for resurfacing and has been shown to create a harder, smoother, ice surface that requires less overall maintenance. This installation was supported with a grant from the REC program as well, and is expected to lower GHG emissions and create savings in natural gas and electricity.

COVID-19 & Public Transit

Leduc Transit is an inter-municipal transit partnership between the City of Leduc and Leduc County, funded in part by the Government of Alberta's Green Transit Incentives Program (Green TRIP).

Leduc residents continue to use and value transit services as a viable option to using private vehicles.

In response to the COVID-19 pandemic, services were reduced by 30% in March of 2020. This level of service was maintained until September when several services were re-added. Service along Leduc Transit Route 10, which connects Leduc Common with Leduc County, the Edmonton International Airport, the Nisku Costco and the Premium Outlet Collection, remained operational over this period.

ROUTE 10 BOARDINGS

2019 2020
28,991 9,753

▼ **66% REDUCTION**

Leduc Assisted Transportation Services is a door-to-door, driver-assisted transportation service for seniors (65+) and for persons with cognitive and/or physical disabilities within the City of Leduc. In response to the COVID-19 pandemic, services were reduced by 75% in March of 2020. This level of service was maintained until September when several services were re-added.



DID YOU KNOW?...

- Free transit was provided to all riders from March 20th to June 30th.
- Post-secondary students were offered free "u-passes" for the September to December term.
- Seniors were offered round trips to the Eco Station at a reduced cost.

% Difference from start of service in 2011 (ridership & boardings: 33,106)

	2016	2017	2018	2019	2020
RIDERSHIP*	68,641	81,654	94,956	107,051	50,081
BOARDINGS†	77,664	90,504	101,723	113,036	51,878

*A PASSENGER IS COUNTED ONCE EVEN IF THEY TRANSFER MULTIPLE TIMES.

†A PASSENGER IS COUNTED EACH TIME THEY BOARD A BUS.

FOR MORE INFORMATION:

City of Leduc Civic Centre #1 Alexandra Park Leduc AB T9E 4C4 Eco-smart Hotline: 780.980.7107 E-mail: ecosmart@Leduc.ca

