



YYJ

VICTORIA
INTERNATIONAL
AIRPORT

Sustainability Plan

2020 – 2024

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President's Message

At the Victoria International Airport, we are surrounded by the natural beauty of our coastline. As our airport facilities expand, we are working to reduce our impact on the environment and simultaneously increasing our positive contributions to the community. In developing our goals and targets for our 2020-2024 Sustainability Plan, we referenced the United Nations Sustainable Development Goals (SDGs) and the Aichi Biodiversity Targets. This plan includes ambitious targets and actions that are aligned with our values and guiding principles, Strategic Plan 2020-2024, Airport Master Plan, and the Global Goals to ensure our areas of focus are forwarding the globe's most pressing issues.

While we have faced unprecedented challenges in responding and adapting to the COVID-19 pandemic, sustainability at our airport remains a top priority.

We are proud of what we have accomplished. Since the publication of our 2016 Environmental Management Plan, we have further restored our creek habitat, reduced our energy and water consumption, introduced further waste sorting to improve recycling, installed electric vehicle charging stations, invested in fuel-efficiency with our fleets, and continue to measure and reduce our carbon footprint.

It is no small undertaking to pursue net-zero emissions while our industry recovers, but we are committed tackling both challenges ahead.



Geoff Dickson, President and CEO,
Victoria Airport Authority



First Nation Acknowledgement

The Victoria International Airport is located within the traditional territory of the W̱SÁNEĆ people. The Victoria Airport Authority respectfully acknowledges the First Nations' long history of land stewardship and knowledge of the land and will look for opportunities to learn from and collaborate with First Nations to help us improve.

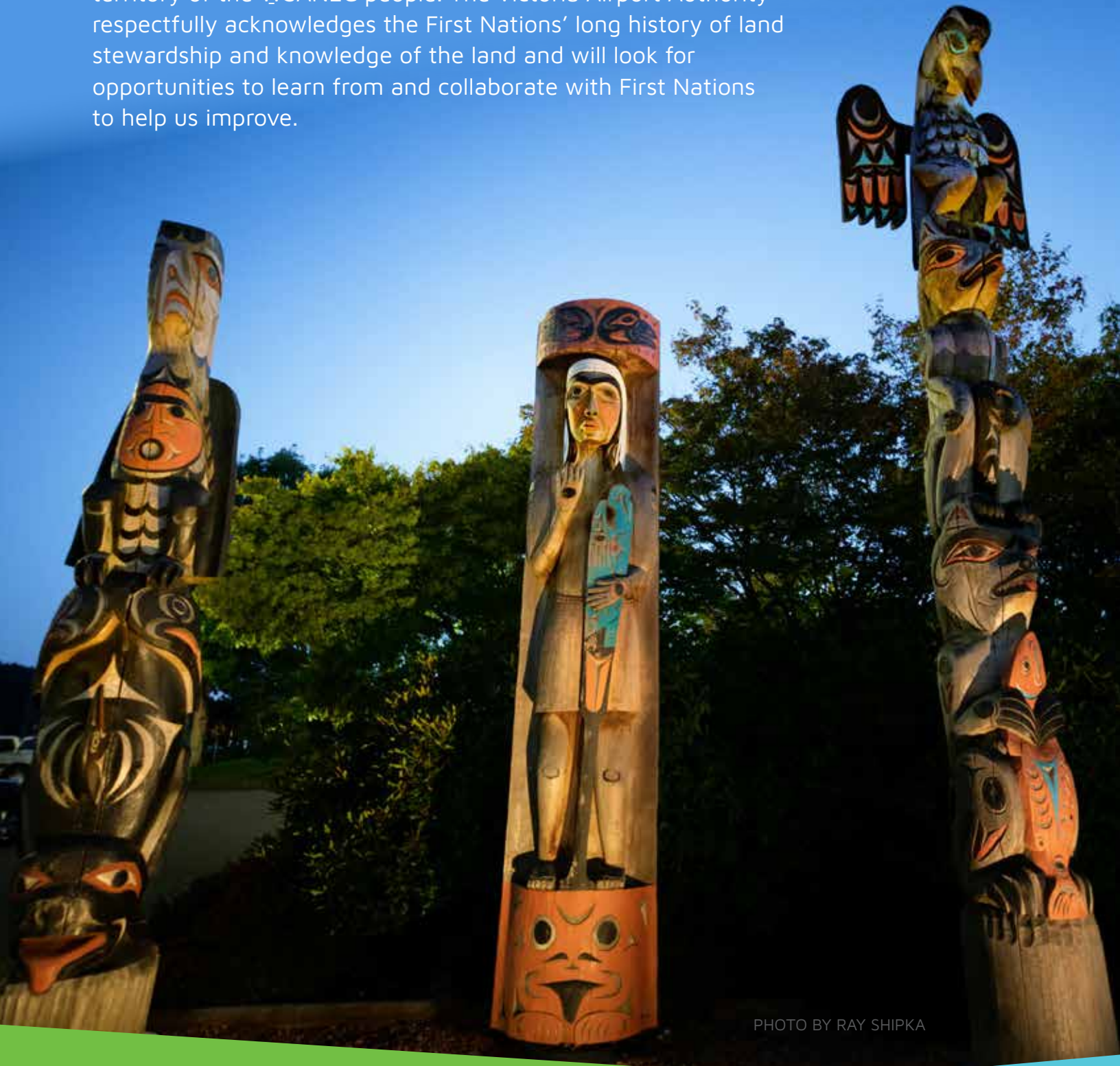


PHOTO BY RAY SHIPKA

Sustainability Priorities

“Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs” – Our Common Future

The Sustainable Development Goals (SDGs), also known as the Global Goals, were adopted by all United Nations Member States in 2015 as a universal call to action to end poverty, protect the planet and ensure that all people enjoy peace and prosperity by 2030. The Victoria Airport Authority (VAA) has adopted the SDGs as a basis towards addressing global sustainable development challenges.

Waste Management

The VAA acknowledges the role waste plays in the degradation of the environment. It is the VAA’s goal to ensure sustainable consumption and production patterns among airport stakeholders by making waste diversion accessible and reusing materials to reduce waste.



Greenhouse Gas Emissions

Reducing the impact of climate change is one of the most important areas of the VAA’s work to protect the environment at YYJ. Since 2013, the VAA has implemented several programs to reduce greenhouse gas emissions and energy, including in its fleet of vehicles and VAA operated buildings.



Ecology & Biodiversity

The VAA is committed to environmental stewardship at YYJ and recognizes the ecological and cultural importance of the forests, salmon bearing creeks, and streams to the local biosphere.



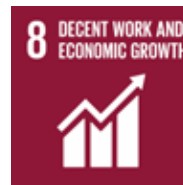
Water Quality & Conservation

Water quality and conservation has long been at the forefront of the VAA's environmental priorities. Through initiatives like the VAA's potable water testing, stormwater quality program and glycol collection system, the VAA ensures the efficient use of water to safeguard the community's most precious resource.



Social Impact

The VAA is a not-for-profit authority that manages the safe and secure operations of the



Victoria International Airport on behalf of the surrounding communities. The VAA has a strong commitment to excellence and is driven by the goal to serve the community and create prosperity for the Vancouver Island region.

Economic Impact

The VAA is a significant contributor to the Vancouver Island



economy – generating employment in sectors such as air service facilities, hospitality, manufacturing, and ground transport. The VAA is dedicated to providing the essential infrastructure that links Victoria and other Vancouver Island communities to the world, making it an important component of tourism and trade-related industries in the region.

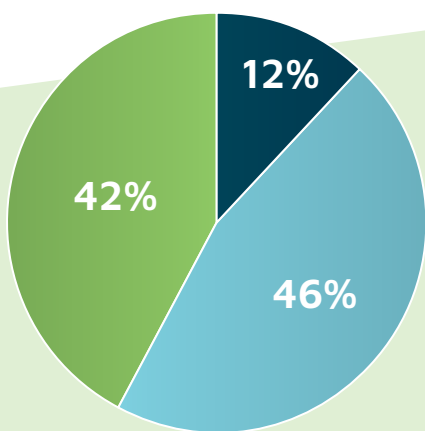
Waste Management

Historical Initiatives & Progress to Date

The VAA acknowledges the role waste plays in the degradation of the environment. By introducing a comprehensive waste management system, the VAA provides airport users with access to landfill, organic waste, and recycling programs. By making waste diversion accessible, the VAA has established a culture of waste responsibility among airport stakeholders.

Since 2016, the waste diversion rate at the Victoria International Airport (YYJ) has increased from 21% to 58% in 2019. This was achieved while passenger numbers increased by 4% over the same timeframe. Through improved waste sorting and introduction of new waste streams, the VAA promoted increased organic waste diversion, the largest contributor to the increase in diversion rate.

YYJ 2020 Waste Mix (%)



- **Organics: 212,283 kg per year (46%)**
 - Food waste & paper
 - Landscaping waste
 - Compostable single-use items
- **Recycling: 55,044 kg per year (12%)**
 - Metals, plastics, and other containers
 - Cardboard and paper
- **Landfill: 191,580 kg per year (42%)**
 - Terminal waste (PPE, luggage)
 - Domestic and international airline waste

Top Initiatives

- ✓ Comprehensive waste management system
- ✓ On-site compost system for landscaping waste
- ✓ Compost system outputs used in land-use applications

Results



Achieved diversion rate of 58% in 2019



Diverted over 267,000 kg of waste from entering the landfill



8,000 kg of landscaping waste converted to compost and used on site in 2019

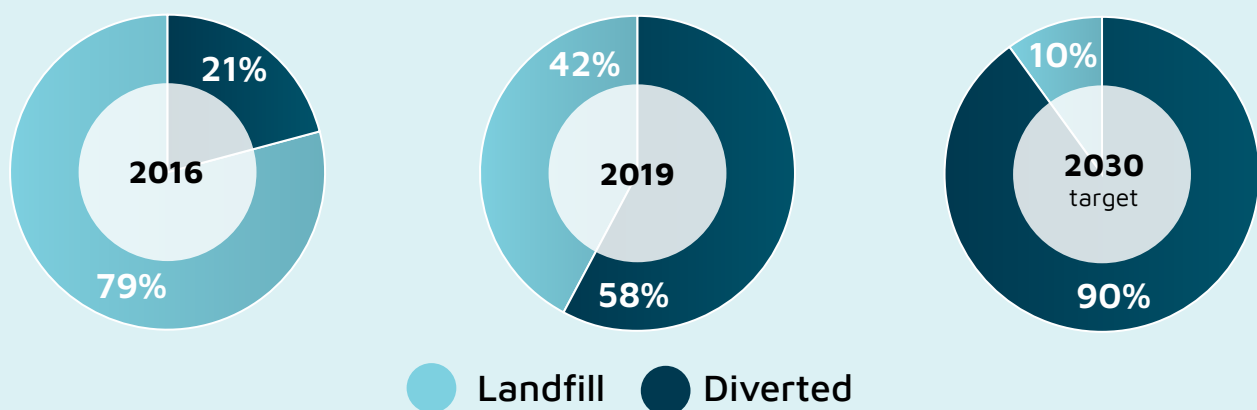
Highlight Initiative: On-site Composting

In 2012, the VAA implemented on-site composting for all landscaping related waste. This initiative was one of the first of its kind among Canadian airports and contributes to reduced emissions from waste decomposition and transportation. The VAA maintains an approach of limiting the soil that is moved off-site and plan to create soil “parking lots” to reuse excess soil produced from the on-site compost system. This will mitigate any need to bring soil from off-site for airport projects, reducing trucking emissions and closing the loop on landscape waste.

Goals & Initiatives Moving Forward

ACHIEVE A WASTE DIVERSION RATE OF 90% BY 2030.

Interim Target: Achieve a waste diversion rate of 75% by 2025. To increase the waste diversion rate to 90% by 2030 the VAA will conduct regular waste audits to identify areas of potential waste management improvement, introduce new waste management streams and processes, and make purchasing decisions to reduce waste.



Future Initiatives

Waste Tracking

- Conduct regular waste audits, beginning with terminal waste, to identify waste reduction and diversion opportunities
- Work with waste service providers to implement tracking and database systems for YYJ waste that is processed off-site

Waste Reduction & Diversion

- Improve terminal waste management with educational signage
- Reduce and recycle single-use items wherever possible
- Introduce programs to reduce food wasted within the terminal
- Review purchasing policies for opportunities to reduce waste at the source
- Establish donation programs with local charities who can reuse waste items (construction, luggage, etc.)
- Explore waste-to-energy options for international waste and domestic landfill waste
- Work with tenants and the YYJ Green Team to implement new waste-reducing programs and educational opportunities



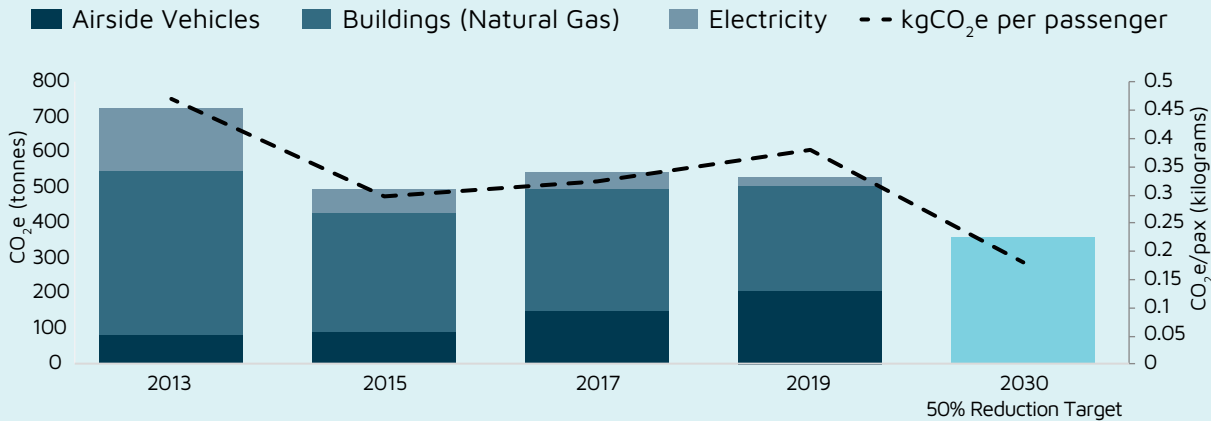
Greenhouse Gas Emissions

Historical Initiatives & Progress to Date

Reducing the impact of climate change is one of the most important areas of the VAA’s work to protect the environment at YYJ. It is the VAA’s goal to meet or exceed the targets set out in the United Nations Conference of Parties Paris Agreement. Over the past decade, the VAA has invested in new technologies and initiatives to reduce greenhouse gas emissions and energy, including in its fleet of vehicles and VAA operated buildings.

The VAA has implemented several programs to improve building energy efficiency and reduce vehicle fuel use. Since 2013, the VAA has reduced its emissions by 22% and reduced emissions per passenger by 19%. These reductions were achieved as the airport faced an average increase in annual passenger traffic of 4%. Looking ahead, the VAA has set an ambitious goal to reduce emissions by 50% by 2030 over 2013 levels.

Historical vs. Targeted YYJ Greenhouse Gas Emissions



Top Initiatives

- ✓ Achieved Airport Carbon Accreditation Level 1 – Mapping (2015) and Level 2 – Reduction (2017)
- ✓ Boiler replacement project (2014/15) and chiller refurbish project (2015-2018) reduced natural gas usage and emissions
- ✓ Geothermal used to heat and cool buildings, reducing the load on natural gas boilers
- ✓ Replaced lighting fixtures in terminal building, street, and parking lot with smart LED lighting fixtures (2015 – 2018)
- ✓ Building Automation System (2018) and Business Intelligence software (2019) implemented to gain energy efficiencies

Results



Greenhouse gas emissions reduced 22% from 2013 to 2019



Emissions per passenger (kgCO₂e/pax) reductions of 19% from 2013 to 2019



LED lighting upgrades have saved 1,750,587 kWh since 2015, the equivalent of powering 156 houses per year



Heating and cooling system and other investments reduced natural gas by 36% since 2013.



Highlight Initiative: Airport Carbon Accreditation

The Airport Carbon Accreditation (ACA) program is the only institutionally endorsed, carbon management certification standard for airports. In 2017, VAA successfully achieved ACI Carbon Accreditation Level 2 – Reduction, recognizing the airport’s reduced carbon footprint through wide-ranging comprehensive environmental programs. To achieve Level 2, VAA demonstrated that efforts taken to reduce carbon emissions resulted in an emissions reduction of 14.4% from the 2013 baseline year.

The VAA is proud to be an active member of the ACA program and is committed to reduce carbon emissions from its operations, with the ultimate goal of becoming carbon neutral.



Goals & Initiatives Moving Forward

REDUCE CARBON EMISSIONS BY 50% OVER 2013 LEVELS AND BECOME CARBON NEUTRAL BY 2030

Interim Target: Achieve Airport Carbon Accreditation Level 3 (Optimization) by 2025

Carbon neutrality represents the highest level of carbon management performance under the Airports Council International’s Airport Carbon Accreditation (ACA) program. To become carbon neutral, the VAA will act on initiatives that target greenhouse gas emissions reductions and compensate for the remaining residual emissions with investments in high-quality, local carbon offsets. This will act as a steppingstone to further optimize the VAA’s carbon management strategies.



Future Initiatives

Carbon

- Achieve ACA Level 3 (Optimization) by 2025
- Optimize on-site carbon sinks such as forests, composting and soil building and restoring riparian areas
- Invest in regional carbon offsets to support conservation, biodiversity, and clean technology
- Achieve ACA Level 3+ (Neutrality) by 2030
- Reduce carbon emissions by 50% over 2013 levels by 2030

Energy

- Explore opportunities to use sustainable fuels or electric/hybrid vehicles at the airport
- Introduce more electric vehicle charging stations for fleets, staff, and tenants
- Continuously shift fleet of specialized or heavy-duty vehicles to electric models, and other fuel sources as they become available
- Invest in electric grounds maintenance equipment
- Continuous improvements to our Building Automation System for energy efficiency
- Explore opportunities to support the use of biofuels or electric vehicles for contractors and tenant vehicles
- Explore opportunities to replace aging HVAC and building systems with modern energy efficient alternatives such as air source heat pumps
- Invest in energy efficient airfield signage and lighting

Ecology and Biodiversity

Historical Initiatives & Progress to Date

The VAA is committed to being a leader in environmental protection through the responsible stewardship of the airport lands. The natural areas include **ĆELSET (Reay)** and **TenTen Creeks** that flow through the airport.

Stream restoration is work conducted to improve the environmental health of a stream in support of biodiversity, recreation, flood management, landscape development and general ecological health and resilience.

Beginning in 2001, the VAA has continuously conducted award winning restoration work on TenTen and ĶELSET (Reay) Creeks. Beginning in the 1940s, historic industrial activities on the airport impacted the creeks, and the VAA is working diligently to improve the ecological health of the creeks (since taking over in 1997). The VAA recognizes the ecological and cultural importance of the streams to the local biosphere and its stakeholders. The VAA will continue working with its partners, WŚĂNEĆ, the Tseycum First Nation, Peninsula Stream Society, Sidney Anglers Association, Reay Creek Residents Group and the Town of Sidney to restore and maintain ĶELSET (Reay) and TenTen Creeks.



Restoration Work

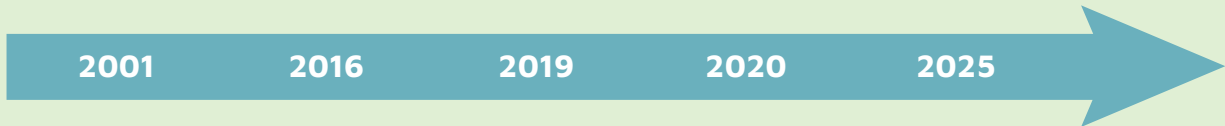
Beginning in 2001 with TenTen Creek wetland creation and creek restoration

TenTen Creek Highlight

300m of creek restored as part of Willingdon Rd. Daylighting project. The creek had previously been diverted underground

Target

600m of additional creek restoration as part of the VAA's Creek Stewardship Plan



KELSET (Reay) Creek Highlight

200m of additional creek channel added to protect fish habitat

Creek Restoration to Date

As of 2020, 1,500m of creek restoration has taken place at KELSET (Reay) and TenTen Creeks

Top Initiatives

- ✓ KELSET (Reay) and TenTen Creek Stewardship Plan
- ✓ Habitat and Wildlife Management Program – airport lands are actively managed to prevent wildlife from coming into contact with aircraft
- ✓ Environmental Screening - potential environmental impacts of all new developments are assessed and dealt with accordingly if identified
- ✓ Construction Environmental Monitoring Program – all construction projects on airport lands must submit Environmental Protection Plans and ensure mitigation measures are followed
- ✓ Rough and Loose (Daylighting Project) Reclamation Treatment – create site conditions that enhance the establishment of native species and contribute to long term creek restoration

Results

-  500m of creek restored through the KELSET (Reay) Creek diversion channel and TenTen Creek daylighting projects
-  Over \$3 Million invested in creek restoration since 2001
-  Wild spawned cutthroat trout discovered in KELSET (Reay) Creek and coho salmon fry in TenTen Creek

Highlight Initiative: The Return of Salmon to TenTen Creek

According to former Chief Vern Jacks of the Tseycum First Nation, the last Coho salmon seen in TenTen Creek was in the 1950's. In conjunction with the WSIKEM-TENTEN Stewardship Project (1996-2002) and Peninsula Streams Society (2003-present), the VAA has invested over \$3 million in habitat restoration and water quality improvement and monitoring over the last 24 years.

In 2019, the hard work of the VAA team and its partners paid ecological dividends when wild-spawned Coho salmon fry were discovered in TenTen Creek for the first time in the VAA's tenure on the land. As a result of this exciting discovery, plans are in place to stock TenTen Creek with Coho pre-smolts to reestablish the creek's salmon population. Given the cultural and ecological significance of the return of salmon to the creek, the VAA is committed to continue regenerating vital stream habitat for salmon and other species that call the creeks home.

Goals & Initiatives Moving Forward

INCREASE AIRPORT BIODIVERSITY BY 20% AND ALIGN WITH AICHI BIODIVERSITY TARGETS BY 2030.

Interim Targets: Restore 600m of creek, characterize airport biodiversity and develop a strategic Aichi Biodiversity Target action plan by 2025.

"Biodiversity encompasses all living species on Earth and their relationships to each other. This includes the differences in genes, species and ecosystems."

- Government of Canada.

The VAA recognizes that biodiversity is essential for sustainable development. By creating and adhering to a plan that aligns airport operations with the UN Convention on Biodiversity's Aichi Biodiversity Targets, the VAA aims to become a global leader in airport biodiversity. Continued restoration of KÉLSET (Reay) and TenTen Creeks, creating a pollinator garden and characterizing and improving biodiversity on YYJ lands demonstrates our commitment to achieving our goals.

The Aichi Biodiversity Targets contains a total of 20 target areas. These are the target areas we will focus on within the next four years:

- Awareness of Biodiversity Increased Ecosystem**
- Biodiversity Values Integrated**
- Pollution Reduced**
- Invasive and Alien Species Prevented and Controlled**
- Protected Areas**
- Ecosystem Restoration**
- Biodiversity Strategies**
- Traditional Knowledge**
- Ecosystem Services**
- Sharing Information**



Future Initiatives

Biodiversity

- Plant a pollinator garden to create habitat for pollinators and enhance biodiversity on airport lands while educating the public
- Continue restoring KÉLSET (Reay) and TenTen Creeks
- Renew the VAA Creek Stewardship Plan in 2023
- Develop a strategic Aichi Biodiversity Target alignment plan that supports the VAA's UN Sustainable Development Goal priorities and aligns with other regional biodiversity strategies

Water Quality & Conservation

Historical Initiatives & Progress to Date

Water quality and conservation has long been at the forefront of the VAA's environmental priorities. Through initiatives like the VAA's potable water testing, stormwater quality program and glycol collection system, the VAA maintains high a level of water quality in water entering the airport and exiting to the surrounding environment and municipal sanitary systems.

In 2019, 42,000 cubic metres of water was consumed at VAA's terminal. At 22 litres per passenger, water use at VAA is approximately 40% below the North American per passenger airport average.

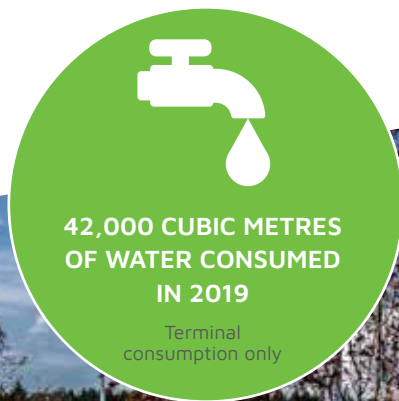


PHOTO BY RAY SHIPKA

Top Initiatives

- ✓ Glycol collection system
- ✓ Potable water testing at 13 different sites across the airport
- ✓ Natural rainwater management-bioswales and raingardens in parking
- ✓ Stormwater quality program - water from TenTen and KÉLSET (Reay) Creeks are monitored to detect spills and ensure airport operations align with environmental regulation
- ✓ Spill response program - procedures to communicate with tenants, ensure staff are appropriately trained and that a response plan is in place incase spill occurs

Results



Decreased emissions from eliminating the need to haul glycol off-site



Increased water consumption efficiency by upgrading all water fixtures in terminal to low-flow alternatives



Water consumption is approximately 40% below the North American airport per passenger average



Over 7,800 square metres of rain gardens and bio-swales installed in parking area to naturally capture and filter stormwater



PHOTO BY RAY SHIPKA

Highlight Initiative: Rain Garden Landscape Improvements

In 2018, the VAA began a 500+ long term parking expansion which incorporates rain garden technology for the management of storm water flows. Rain gardens surrounding YYJ land help restore the natural balance of pollinator habitat and filter water before entering the ecological systems.

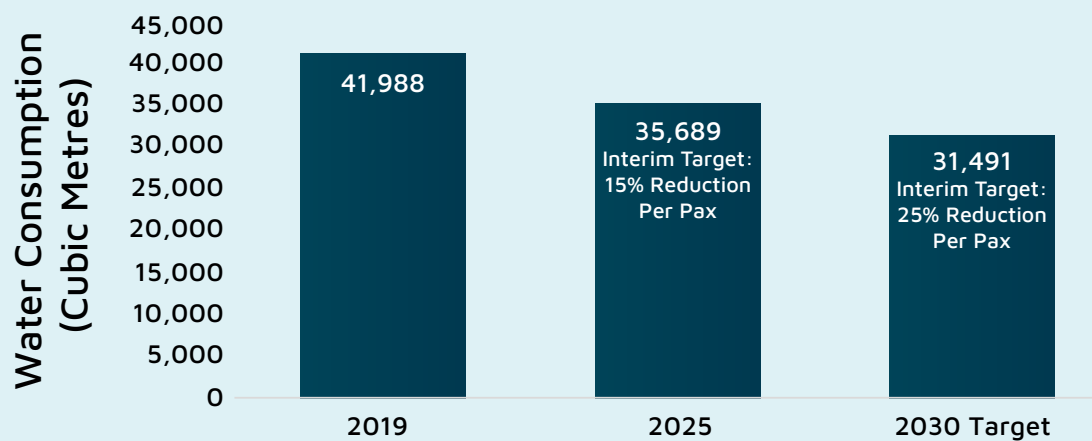
Goals & Initiatives Moving Forward

REDUCE WATER USE BY 25% PER PASSENGER BY 2030.

Interim Target: Reduce water use by 15% per passenger by 2025.

As water use at the airport is directly related to the number of airport passengers, the VAA aims to reduce its water use on a per passenger basis. In addition to setting a water use baseline in 2019, the VAA is prioritizing the installation of additional water meters and digitization of the airport's water meter network. This will facilitate the VAA's ability to accurately track water usage, identify reduction opportunities and ultimately reduce its demand on the municipal water supply.

YYJ 2019 Water Consumption



Future Initiatives

Water Tracking

- Install additional water meters to improve monitoring of water use on-site
- Digitize water meters

Water Use Reduction and Conservation

- Implement a low-flow water fixture program throughout the airport, including tenants and food services
- Harvest rainwater for use on airport lands
- Explore greywater recycling to reduce demand on potable water for non-drinking activities
- Support water conservation initiatives for tenants on airport lands
- Install Hydrowise low water use irrigation systems in all future landscaping projects
- Implement xeriscaping techniques in all future landscaping projects to reduce water demand



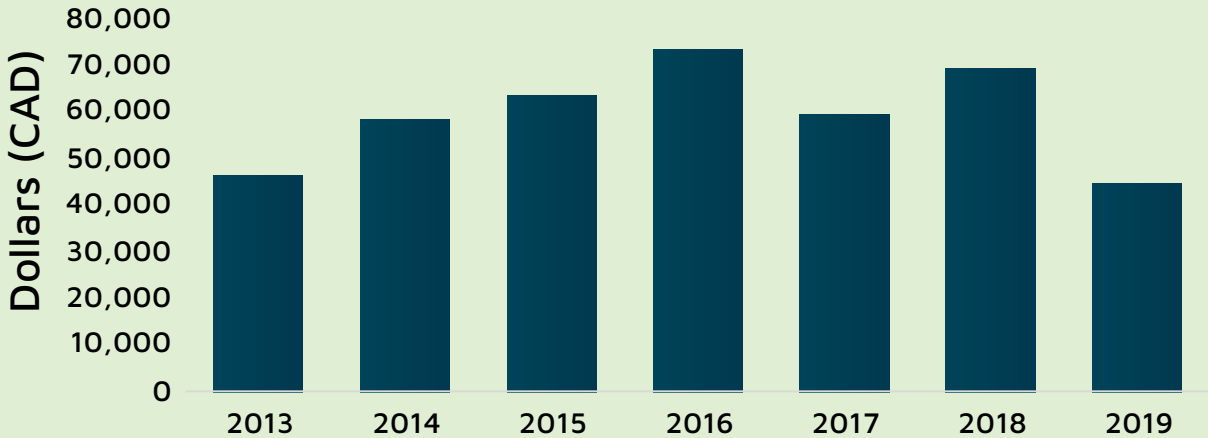
Social Impact

Historical Initiatives & Progress to Date

The VAA is a not-for-profit authority that manages the safe and secure operations of the Victoria International Airport on behalf of the surrounding communities. The VAA has a strong commitment to excellence and is driven by the goal to serve the community and create prosperity for the Vancouver Island region.

The VAA supports a number of community events and charitable organizations, including the Tseycum First Nation Shorekeepers program, Canadian Cancer, United Way, and the Peninsula Streams Education and Clean Up Programs. Since 2013, the Victoria Airport Authority has contributed over \$400,000 in community donations and sponsorships.

VAA Community Donations & Sponsorships



Top Initiatives

- ✓ Flight Path - a unique bike and walking trail that encircles the airport lands for people of all ages
- ✓ Since 2012, participated in Excellence Canada's Healthy Workplace Month initiative
- ✓ Partnered with Changing Places and the Rick Hansen Foundation for increased accessibility features in the terminal
- ✓ Annual employee feedback conducted to support continuous improvement
- ✓ Art at the Airport program to showcase the work of talented artists in the terminal building
- ✓ Land lease for \$1 for North Saanich Community Park and Rotary Park Ball Diamond

Results

-  Over \$400,000 in community donations and sponsorships since 2013
-  Over 800 hours of professional development and training undertaken in 2019
-  Named one of Canada's Healthy Workplace Month Great Employers by Excellence Canada and Canada Life
-  430 years of combined service by 55 employees
-  Awarded 2020 BC Top Employer
-  Awarded with an Honorary Lifetime Membership to the Art Gallery of Greater Victoria in 2019

Highlight Initiative: Lost Airmen Memorial

In 2017, Victoria Airport Authority dedicated the memorial sculpture Lost Airmen of the Empire, which overlooks the airport on the former military site known as Hospital Hill. The commemorative monument honours those who gave their lives while serving at Patricia Bay Air Station during the Second World War.

The monument, created by nationally-recognized Victoria sculptor Illarion Gallant, features twenty-five 3.6-metre-tall steel Cooper's hawk feathers that represent agility and tenacity in flight. The names of the lost are waterjet cut into the feathers. It is an extraordinary monument that pays fitting tribute to the origins of the airport and, more importantly, provides a lasting memory of these lives lost to keep our country free.



Goals & Initiatives Moving Forward

CONTRIBUTE TO ALL UN SUSTAINABLE DEVELOPMENT GOALS BY 2030.

Interim Target: Engage in 5 new partnerships/programs with local communities by 2025

The VAA has adopted the SDGs as a basis towards addressing global sustainable development challenges. The VAA will take further action to develop meaningful partnerships and programs that will advance all 17 SDGs by 2030.



Future Initiatives

Advance all 17 of the Sustainable Development Goals

- Achieve Rick Hansen Foundation Accessibility Gold Certification by 2021 (SDG 10)
- Participate in Destination Greater Victoria Sustainability Committee to create new collaborations for regional sustainable tourism (SDG 17)
- Foster strong relationships with local and Indigenous communities to support traditional heritage on Vancouver Island (SDG 11)
- Engage with municipal, provincial and federal governments, and with federal and international regulators (Transport Canada and ICAO) on proposed actions and targets (SDG 17)
- Flight Path to Wellness - develop programs to allow staff to walk around the flight path and learn about the cultural and historical significance of First Nations land surrounding the airport (SDG 3)







Economic Impact

Historical Initiatives & Progress to Date

The Victoria International Airport (YYJ) is a major contributor to the Vancouver Island economy – generating employment in sectors such as air service facilities, hospitality, manufacturing, and ground transport. The VAA is dedicated to providing the essential infrastructure that links Victoria and other Vancouver Island communities to the world, making it an important component of tourism and trade-related industries in the region.

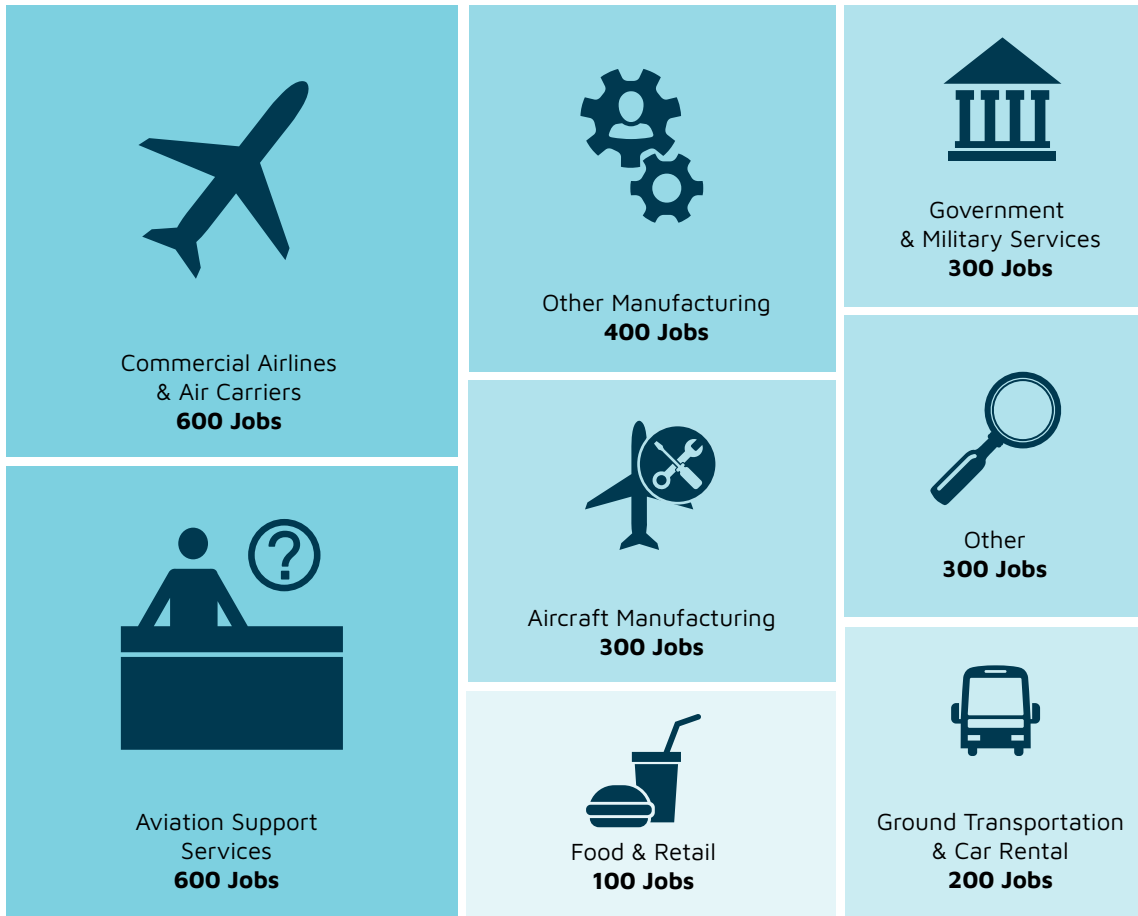
In 2017, operations at YYJ generated 4,200 person years of employment, \$270 million of wages in British Columbia, \$420 million in Gross Domestic Product (GDP), and \$880 million in economic output annually. Prior to the COVID-19 pandemic, the VAA has set an ambitious goal to generate \$1.1 billion in economic impact annually by 2025 to promote sustainable economic development and tourism on Vancouver Island.

Annual Ongoing Economic Impact of Victoria International Airport, 2017

Impact	 Employment		 Wages	 GDP	 Output
	Jobs	FTEs	(\$ Millions)	(\$ Millions)	(\$ Millions)
Direct	2,800	2,500	\$170	\$230	\$540
Indirect	1,100	1,000	\$60	\$100	\$200
Induced	800	700	\$40	\$90	\$140
Total	4,700	4,200	\$270	\$420	\$880

Note: Totals may not sum due to rounding

Direct Employment by Occupation at Victoria International Airport, 2017



Results



4,200 person
years of
employment



\$420 million
in GDP



\$880 million
in total
economic output



\$270 million
wages
throughout
British Columbia



Future Outlook



Collaboration

We cannot achieve these ambitious goals on our own. To make a meaningful difference at our airport and in our community requires partnerships with local non-profits, government, the tourism industry, First Nations and businesses. We look forward to continued collaboration and new partnerships to make our goals a reality.

Commitment

We are proud of what our team has accomplished to date, and within this Sustainability Plan, we have a lot more to do. In the years ahead, our team will be working hard to reduce water by 25% per passenger, reduce emissions by a further 50%, reach a 90% waste diversion rate, continue creek restoration, and much more.



Community

Airports have an important role to play in creating a sustainable aviation industry. From terminal waste management to services for airlines, sometimes a step in the right direction starts on the ground. We look forward to learning from other airports and working with aviation partners to continue advancing the low-carbon and resilient future for our industry.





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VICTORIA
INTERNATIONAL
AIRPORT

1640 Electra Blvd,
Sidney, BC V8L 5V4
victoriaairport.com