Green Policing: Recommended Actions for an Environmental Sustainability Plan for the Vancouver Police Department

Prepared For: Vancouver Police Department

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Executive Summary

This report recommends actions that can be taken to improve the environmental sustainability of the Vancouver Police Department (VPD). A broad scan of the literature was conducted to identify best practices and assist in the development of a long-term environmental sustainability plan for the VPD that aligns with the corporate sustainability goals of the City of Vancouver (COV). A total of 50 actions were identified.

Actions were targeted to address 4 objectives:

Carbon footprint: Reduce the carbon footprint of the VPD.

Waste: Reduce the amount of waste produced by the VPD.

Procurement: Pursue environmentally friendly and ethical procurement.

Leadership: Establish the VPD as a leader in green policing.

Actions were organized according to 4 strategies.

Awareness and green behaviour: Promoting awareness of sustainability, educating employees on best practices, and encouraging sustainability in everyday actions.

Green fleet: Purchasing fuel efficient and electric vehicles and optimizing fleet and vehicle management to reduce fuel consumption.

Sustainable operations: Embedding sustainable practices into every level of the VPD.

Zero unnecessary waste: Integrating a zero-waste approach to procurement, administration, and – where appropriate – operations.

The recommendations range from quick wins such as promoting energy conservation through awareness and signage and purchasing biodegradable single-use items, to longer term actions such as vehicle fleet electrification. Many of these actions are already underway at the VPD and will benefit from continued monitoring and evaluation. Other actions offer new ideas and potential ways of further enhancing the environmental sustainability of the VPD. The intention is for this report to serve as a catalyst for the short-term implementation of quick wins, as well as the basis for longer term strategic planning.

This report demonstrates that environmental objectives are compatible with police operations. Public safety and environmental sustainability are not at odds – indeed, given the harm threatened by climate change, ensuring environmental sustainability is essential to enhancing public safety. By taking action on environmental sustainability, the VPD can lower GHG emissions, encourage a shift towards a green culture, save fuel, lower costs, reduce waste, streamline operations, and establish itself as a leader in environmentally sustainable policing.

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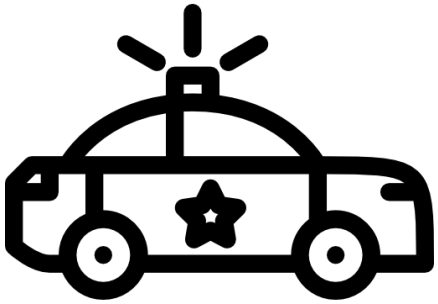
Introduction

Police operations are essential to creating a safe, healthy, and livable city. Every police cruiser that rushes to the scene of an emergency is there to help someone in need; every crime that is investigated and solved brings justice to the victim and makes our communities safer; every weapon or harmful substance that stays out of the wrong hands can save lives. Yet, each of these actions has environmental costs.

Police cruisers burn fuel and release pollution; investigations consume energy and produce waste; weapons and substances need to be destroyed and disposed of. Given the importance of enhancing public safety, most police agencies do not consider the environmental impact of their operations. Yet, the environmental costs of policing are real. As the climate warms, the challenge of keeping our communities safe will grow. More frequent flooding, rising seas, longer and more intense forest fire seasons, stronger storms, global resource conflict, weather related crime, climate induced migration, and extreme heat events will impact communities around the globe and require police to respond.

Acting on climate change will not only mitigate the impacts of a warming planet, but provide a range of social, health, financial, and environmental benefits. Integrating environmental sustainability into daily operations – from the level of individual behavior, to procurement and fleet management – makes organizations more resilient and responsible. Recognizing that the health and safety of the community is linked to the health of our environment, the Vancouver Police Department (VPD) has begun to take bold steps towards greening its operations.



Fighting crime, enhancing public safety, and ensuring officer safety are the top priorities of the VPD. There is little room for compromise when it comes to public safety and police operations. Measures to green police operations must be understood in this context. Yet, public safety and green operations are not mutually exclusive. There are many actions that can be taken to keep Vancouver safe while also protecting the environment, reducing carbon emissions, eliminating and reducing waste, and increasing the health of the community.

This report provides recommendations on actions that can be used to inform the development of a strategic plan for environmental sustainability by the VPD. Building on work completed by VPD staff, the City of Vancouver (COV), previous Greenest City Scholars, and other organizations around the world, 50 actions have been identified that address key objectives and align with the corporate sustainability goals of the COV.

To guide the recommendations in this report a vision, objectives, and strategies were created. The vision guiding the actions in this document is: **The Vancouver Police Department will enhance the health and safety of the community by improving its environmental sustainability.**

The recommended actions are targeted to address 4 objectives:

Carbon footprint: Reduce the carbon footprint of the VPD

Waste: Reduce the amount of waste produced by the VPD

Procurement: Pursue environmentally friendly and ethical procurement

Leadership: Establish the VPD as a leader in green policing

From these objectives, the recommended actions are grouped into 4 strategies:

Awareness and green behaviour: Promoting awareness of sustainability, educating employees on best practices, and encouraging sustainability in everyday actions

Green fleet: Purchasing fuel efficient and electric vehicles, and optimizing fleet and vehicle management to reduce fuel consumption

Sustainable operations: Embedding sustainable practices into every level of the VPD

Zero unnecessary waste: Integrating a zero-waste approach to procurement, administration, and – where appropriate – operations

The recommendations range from quick wins such as promoting energy conservation through awareness and signage, to longer term actions such as vehicle fleet electrification. Many of these actions are already underway at the VPD. Others offer new ideas and potential paths forward. The recommendations in this report offer potential ways to lower GHG emissions, encourage a shift towards a green culture, save fuel, lower costs, reduce waste, streamline operations, and establish the VPD as a global leader in environmentally sustainable policing.

The VPD is on track to becoming one of the greenest police services in the world. The actions recommended in this report demonstrate how environmental sustainability is not a compromise or a constraint. Achieving sustainability is not about choosing between operational, financial, and environmental objectives. It is about making smart decisions that achieve all three. Green policing is an opportunity to enhance the health and safety of local communities by making policing more resilient and responsible. With continued leadership, dedication, and creative thinking, the VPD can set the global bar for green policing and help make Vancouver one of the greenest cities in the world.

Actions

Awareness + Green Behaviour

1.1 Allot time at meetings to discuss environmental sustainability measures
1.2 Develop a strategy for promoting and sharing VPD environmental initiatives
1.3 Expand messaging around zero waste and recycling
1.4 Promote energy conservation through signage in buildings and messaging on the Code Green website
1.5 Share positive stories of employees who use alternative commutes
1.6 Host wet-weather cycling training and information sessions
1.7 Implement an externally administered carpool ride-matching program
1.8 Enhance cycling facilities and amenities
1.9 Ensure that computers and monitors are optimized to reduce energy use and are turned off at the end of day
1.10 Host bicycle maintenance learning sessions for employees
1.11 Encourage staff carpooling
1.12 Implement a bicycle purchasing loan program
1.13 Establish secure video/web conferencing capability in all major facilities to reduce travel
1.14 Implement and spread awareness of a guaranteed ride home program

Green Fleet

2.1 Explore the use of fuels with higher ethanol and biodiesel concentrations
2.2 Recognizing the need for emergency response, expand the use of bicycle and foot patrols where appropriate
2.3 Look into operationally appropriate patrol options such as e-bikes
2.4 Purchase electric vehicles and install charging infrastructure
2.5 Install IdleRight technology in patrol vehicles
2.6 Replace V8 patrol vehicles with more fuel efficient V6's
2.7 Optimize maintenance and fueling practices
2.8 Ensure right sized vehicle deployment and response

Sustainable Operations

3.1 Establish a green policing network to enhance knowledge-sharing and promote environmental leadership
3.2 Monitor yearly C02e emissions from buildings and fleet internally
3.3 Develop a green policing action guide
3.4 Increase the number of bees at Cambie and establish hive at Graveley
3.5 Purchase and use uniforms from companies with fair and ethical labour practices
3.6 Continue to support the Code Green Committee in promoting environmental sustainability at the VPD
3.7 Continue to coordinate with the COV and UBC to participate in the Greenest City Scholars program
3.8 Develop a Strategic Plan for Environmental Sustainability
3.9 Continue to support the community gardens at Cambie and Graveley
3.10 Encourage laundry practices that conserve water, are environmentally friendly, and are energy efficient
3.11 Develop a framework for purchasing 3rd-party environmentally certified products
3.12 Apply life-cycle assessments to equipment procurement
3.13 Minimize air-travel
3.14 Partner with environmentally sustainable suppliers

Zero Unnecessary Waste

4.1 Where operationally feasible, ensure single-use items are biodegradable
4.2 Explore paper use reductions such as records digitization
4.3 Implement bring your own mug and bring your own container programs
4.4 Implement a uniform recycling program
4.5 Purchase and use high quality, long-lasting, and durable equipment and uniforms
4.6 Ensure that printers use 100% recycled paper and vegetable-based inks
4.7 Shred and recycle recovered weapons and firearms
4.8 Shift property office auction to an online format
4.9 Explore opportunities to digitize tickets
4.10 Require external stakeholders to submit documents electronically and accept no paper copies
4.11 Install on-site composting bins at the community gardens
4.12 Recycle copper bullets from the Tactical Training Centre (TTC)
4.13 Use PaperCut software to reduce printing
4.14 Encourage the use of electronic approvals for administrative matters

Background

Purpose and Methodology

The purpose of this report is to identify and recommend actions that could make the VPD more environmentally sustainable. The recommendations are intended to serve as a menu of possible actions – laying out a range of best practices and encouraging creative ways of adapting and implementing these actions to meet the needs of the VPD. The actions capture a wide array of sustainability best practices, many of which are already underway at the VPD. Actions that are in-progress/complete are included in order to reflect the progress already made by the VPD, and to ensure that current practices are considered and enhanced in future planning. Due to the breadth of actions considered, this report was not able to explore actions in the depth needed to serve as a strategy or implementation plan. The recommendations may require further planning and research if they are selected to be implemented. The hope is that the recommendations in this report will increase the momentum behind green policing at the VPD, offer ideas for high-impact actions in the near-term, and provide a basis for sustainability planning in the future.

This report relied upon a literature review and interviews with VPD and COV staff. The original objective of the project was to undertake a broad scan of environmental sustainability practices in policing agencies around the world. However, little information on sustainability planning in policing was publicly available. A sustainability survey sent to every major police department in Canada and the United States yielded no positive responses. A broad scan of the academic and grey literature yielded few policing specific

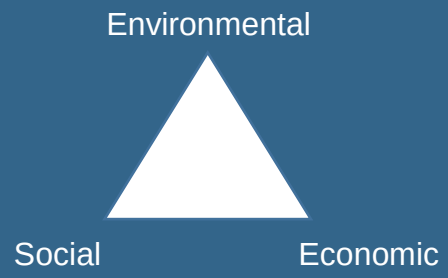
actions that targeted environmental sustainability. This absence of information served as important data point itself. While there are some police agencies that are taking action on sustainability, green policing is far from a common practice. There is much work that can be done to improve the environmental performance of police agencies. Yet, the demands of day-to-day operations can often leave police agencies with little room to plan for sustainability. Without clear directions from senior leadership and city governments, police agencies often lack the impetus to systematically green their operations. When the leadership is there, however, pursuing environmental sustainability can create significant benefits to the natural environment, local communities, the work environment, and agency budgets.

Given the challenges of gathering sustainability information specific to policing, a broad literature review of sustainability practices in healthcare, the military, government, universities, and other large organizations was conducted. Actions were drawn from these sources, and then organized according to the sustainability objectives they met. Further information was gathered from employees at the VPD and COV. Actions specific to the VPD were then drafted, reviewed and revised. The final set of actions was then drawn from these, and included in this report.

What is Sustainability?

Sustainability is defined as meeting the needs of the present without compromising the needs of the future.

There are three sides to sustainability (also known as the “triple bottom line”):



Actions that address one side of sustainability must always consider the others. An action that is environmentally friendly but not economical or socially beneficial would not be sustainable. Only actions that meet current environmental, social, and economic needs without disrupting the capacity of future generations to meet their own needs are considered sustainable.

What Others are Doing

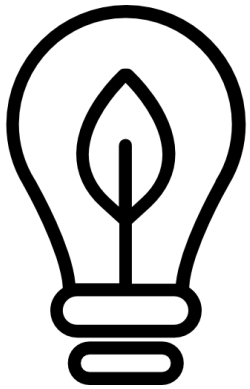
Though green policing is far from a common practice, a number of leading agencies have taken steps to green their operations. The Calgary Police Service has initiated programs to help green the fleet, reduce paper consumption and waste, decrease idling behaviour, and encourage carpooling, cycling, and transit use. The Los Angeles Police Department's *LAPD in 2020* strategic plan features a number of actions directed at promoting sustainability. These include encouraging a green culture, establishing a Green Team, expanding hybrid and electric vehicle deployment, expanding foot and bicycle patrols, and reducing power and water consumption. The U.S. Department of Justice (DOJ), *2016 Strategic Sustainability Performance Plan* commits the DOJ and its agencies – such as the FBI – to "promote environmental stewardship and sustainability", by reducing GHG emissions, improving water and energy efficiency, purchasing clean energy, reducing waste, promoting sustainable buildings and supply chains, and enhancing the DOJ's resilience to climate change.

Under the Government of Canada *Federal Sustainable Development Act* (2008), all federal departments are required to create sustainable development strategies. Departments with operational requirements parallel to those of the VPD have put in place strategies containing a number of actions intended to green operations. The Department of National Defence (DND) *Defence and Environment Strategy* (2017) contains initiatives focused on improving energy efficiency, sustainable operations, green procurement, and sustainable property management. The Canadian Border Services Agency (CBSA) has identified sustainable actions that include facilities emissions reductions and green procurement.

The healthcare industry offers examples of organizations that are greening their operations without compromising the delivery of essential services to the public. Sustainability policies for the Lower Mainland Health Authorities – Fraser Health, Providence Health Care, Provincial Health Services Authority and Vancouver Coastal Health – are united under

the GreenCare Community. The GreenCare initiative is responsible for advancing the goals of a healthy environment, healthy workplaces, and healthy communities. Focus areas include smart energy and water, regenerative design, culture change, active and clean transportation, and zero waste and toxicity. GreenCare promotes and tracks recycling, supports staff who volunteer as Green Leaders, and advocates for active and green transportation choices.

Across North America, municipal governments and operations are greening service delivery across departments. The Toronto Emergency Medical Services have equipped many of their ambulance vehicles with anti-idling technology. The award winning City of Seattle *Green Fleet Action Plan* (2014) has aggressive targets for prioritizing electric vehicles and reducing carbon emissions. The Calgary Fire Department *Sustainability Plan 2011-2021* seeks to reduce the carbon footprint, water use, and waste of fire and emergency operations, while becoming energy neutral and reducing fire and hazardous materials risks.



Greening operations has become a priority across scales of governance, from federal, to municipal, to departmental. Cities and city services are often taking the lead in pursuing environmental sustainability. Green operations consistently help organizations achieve social, financial, and environmental goals. Police agencies are beginning to take action on environmental sustainability, and will benefit from knowledge sharing as they add sustainability to the agenda.

Policy Context

The need for sustainable police operations has been recognized as a priority by the VPD and the COV. The *2012-2016 VPD Strategic Plan* (2012) committed the VPD to becoming a law enforcement leader in environmental sustainability. The goal to "Manage resources in an environmentally sustainable manner" recognized the need for improvements to the fleet, facilities, and waste diversion. This goal was integrated into the VPD yearly business plans from 2012 through to 2016, incorporating targets and strategies around the Code Green Committee, waste diversion and reduction, vehicle efficiency and electrification, idling reduction, and promoting a green culture at the VPD. The commitment to environmental sustainability featured in the *Strategic Plan* (2012) set the stage for the actions that the VPD has taken to advance sustainability, and launched the VPD to the forefront of green police agencies.

In 2011, the City set the goal of becoming the greenest city in the world by 2020 through the adoption of the *Greenest City 2020 Action Plan* (2011). This plan set in motion a number of initiatives to reduce Vancouver's impact on the

COV Greenest City Goals

The *Greenest City 2020 Action Plan* laid out 10 goals for becoming the greenest city in the world:

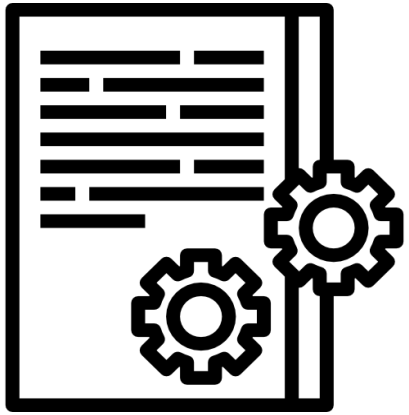
- Green Economy
- Green Leadership
- Green Buildings
- Green Transportation
- Zero Waste
- Access to Nature
- Lighter Footprint
- Clean Water
- Clean Air
- Local Food

In 2015 the *Greenest City 2020 Action Plan Part Two: 2015-2020* added the goal of Green Operations, which set the following targets for City departments:

- **Zero Carbon**: 50% GHG reduction from City operations from 2007 baseline
- **Zero Waste**: 70% diversion rate from public facing facilities; 90% diversion rate from all other City-owned facilities
- **Healthy Ecosystems**: Reduce water use in City operations by 33% from 2006 levels

environment. In 2015, the plan was updated to include the goal of green operations. Green operations set targets for GHG, waste, and water use reductions in city operations and facilities.

The *Renewable City Strategy* (2015) is designed to transition Vancouver's energy use to 100% renewable sources by 2050. This strategy plans for improvements in efficiency alongside a transition to renewable fuels where necessary. For example, by 2050, the strategy envisions that all vehicles in Vancouver will be powered by electricity, biofuels, or hydrogen, while all buildings will derive their energy and heat from electricity, neighborhood energy systems, biofuels, or biomethane. As the City owns and operates VPD buildings, the COV is responsible for implementing targets related to building emissions and facilities management. For example, in 2011 and 2012, the COV worked with the VPD to construct the VPD Tactical Training Centre and the VPD Property and Forensic Storage Facility to LEED Gold standards.

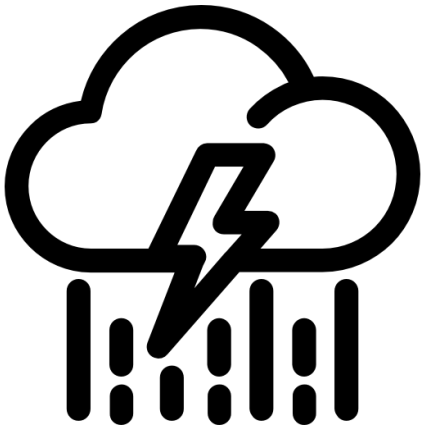


The COV's *Climate Change Adaptation Strategy* (2012) is a comprehensive plan for adapting city operations to climate change. The strategy recognizes the need for actions that will help to prevent climate change (mitigation), and that will help respond to the impacts of climate change (adaptation). The *Adaptation Strategy* assesses the risks of climate change, identifies forecasted impacts on Vancouver, includes risk and vulnerability assessment details, and offers actions targeted towards mitigating and adapting to these impacts.

Alongside the City's climate action planning, *Zero Waste 2040* (2018) was adopted as a long term vision for achieving the goal of zero waste by 2040. This strategy is intended to guide investments and direct policy towards the elimination of

municipal solid waste, not only through increasing diversion – the percentage of waste that is recycled or composted – but also by reducing disposal – the amount of material disposed of in the landfill or incinerated. The City has committed to "Lead by Example" and has set the reduction and elimination of waste from City operations and facilities as a high priority.

Climate Change



Planning for environmental sustainability means planning for climate change. It is important to recognize the impacts that a changing climate will have on Vancouver and VPD operations. Over the past century, BC has averaged 1.4°C of warming. If "business as usual" emissions continue, by the 2050s the average temperature is expected to increase a further 1.7 to 4.0°C from 1971-2000 levels.[1] By the 2080s, temperatures are expected to increase by 3.0 to 6.6°C.[2] Changes in temperature have cascading effects across the environment. Average precipitation may increase by around 5% by 2050, and is expected to fall increasingly in extreme events, with the wettest days of the year experiencing 30-60% more precipitation.[3] Though annual precipitation is projected to increase, summer precipitation will decrease, lengthening dry spells and drought. Intense wind and rain storms will become more frequent. Coastal erosion will accelerate. Most small glaciers in the south coast region

[1] Climate Impacts Summary Vancouver, PCIC (2016)
[2] Climate Projections for Metro Vancouver (2016)
[3] Ibid.

will disappear. Overland and coastal flooding will become more frequent and severe. The impact of extreme heat events will grow, and forest fires will become more frequent.[4]

Given the link between precipitation and road safety, fatal collisions are projected to rise between 1.5 and 2.3% in the Metro Vancouver region by 2050 because of climate change, and the annual number of collisions is projected to rise from 17 to 28% by 2050.[5] A number of studies have found strong correlations between temperature and criminal activity.[6] One study estimates that between 2010 and 2099, temperature increases due to climate change in the United States will cause a 2.2% increase in murder, a 3.1% increase in rape, a 2.3% increase in aggravated assault, a 1.2% increase in simple assault, a 1.0% increase in robbery, a 0.9% increase in burglary, a 0.8% increase in vehicle theft, and a 0.5% increase in larceny.[7]

BC Climate Change Health Risks

The BC Ministry of Environment and Climate Change Strategy has identified the following impacts and risks of climate change:

Impacts

- Flooding
- Heat waves and urban heat island effects
- Increased frequency and intensity of storms
- More frequent and severe drought
- Wildfires
- Changes in infectious agents, new pests, and longer disease transmission seasons

Risks

- Stress, anxiety and trauma
- Infrastructure/property damage
- Injury, death
- Interruption of health services
- Heat-related illnesses such as heat stroke and heat exhaustion
- Food and water shortages and/or contaminations
- More prevalent water-borne pathogens
- Decreased air quality
- Possible emergence of new diseases

[4] Ibid.
[5] Hambly et al. (2013)
[6] Mares (2013), Ranson (2014), Xu et al. (2017), Yu et al. (2017)
[7] Ranson (2014)

These changes to the climate will have a number of impacts that are relevant to the VPD. Damage to buildings, personal property, trees, and infrastructure will result from increasingly frequent severe storms and flooding. Storms and floods will threaten public safety, reduce power reliability, and require the response of emergency services. Extreme heat events will put populations at greater risk of morbidity and mortality. Health and safety risks to vulnerable homeless and low-income populations will increase. Forest fires in neighboring communities may result in temporary or permanent displacement and require emergency assistance (for example, the Fort McMurray wildfire of 2016 displaced almost 88,000 people)[8]. Global dynamics, such as increases in resource and water related conflict, food insecurity, and environmental displacement and climate change refugees may impact Vancouver in unpredictable ways.

The evidence is overwhelming – climate change will have severe environmental, social, and economic impacts on Vancouver, and the VPD will be called upon to respond. In preparing to create an environmental sustainability strategy, the VPD is doing its part to help mitigate the impact of climate change, minimize harm, and adapt its operations to a world that is warming.

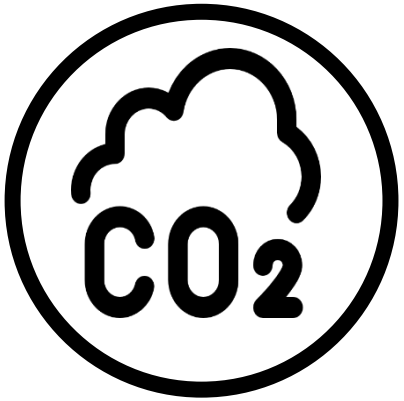
[8] KPMG (2016)

Objectives

The recommendations in this report are organized around 4 objectives. These objectives were created to align with the goals of the *2012-2016 VPD Strategic Plan* and the *Greenest City Action Plan 2020.*

Carbon footprint: Reduce the carbon footprint of the VPD.

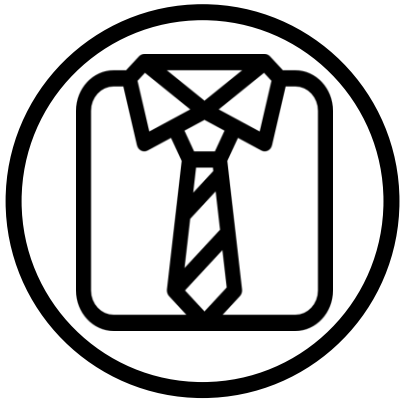
The VPD operates a large fleet, employs over 1,700 people, patrols more than 1,400 kilometers of roads and 2,200 kilometers of sidewalks, and fills several large buildings with staff. The carbon emissions associated with these operations are significant. Carbon emissions reductions will help to improve local air quality, mitigate the impacts of climate change, and reduce costs.

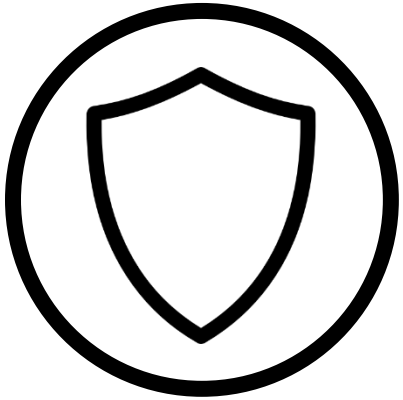


Waste: Reduce the amount of waste produced by the VPD.

VPD operations produce large volumes of waste. While most of this waste is diverted to recycling and composting facilities, some of it ends up in local landfills. Where operationally feasible, reductions in the amount of waste produced by the VPD will reduce the amount of harmful substances disposed of, minimize energy consumption associated with the production and distribution of discarded items, and contribute to the circular economy through re-use, up-cycling, and recycling.

Procurement: Pursue environmentally friendly and ethical procurement. The VPD buys many items every year – from uniforms to paper to patrol cars. Where these items come from – and what their impact on the environment is – is important. Procurement should ensure the products the VPD buys meet operational and financial targets while having the lightest environmental impact possible. They should also come from sources that follow fair and ethical labour practices.





Leadership Establish the VPD as a leader in green policing.

There is a gap between the importance of environmentally sustainable policing and the number of police agencies actively pursuing it. The VPD has an opportunity to step up and continue leading by example in greening its operations. By sharing the benefits of environmentally sustainable policing with agencies around the world and engaging in knowledge sharing around successful strategies and actions, the VPD can help to challenge other agencies to green their operations.

Recommendations

1. Awareness and Green Behaviour

Awareness and green behaviour is about raising the profile of sustainability at the VPD and creating a green culture. Environmental sustainability begins with individual choices. These choices can range in significance. Some choices are small, such as taking a few extra moments to sort recycling, or bringing a reusable mug to the coffee shop. Other choices are larger and may require more commitment, such as cycling to work or taking transit several times a week. As an employer, the VPD can build awareness around the benefits of environmentally sustainable choices. The VPD can structure choices so that the greenest options are the default. It can educate staff about the range of sustainable options available, and encourage staff to build sustainability into their everyday routines. By spreading awareness of environmental sustainability and making the greenest option the default choice, the VPD can take significant steps forward in greening its operations.

Definitions

Quick Win: Action can begin without a planning process. Low to moderate costs. Expect 0-6 months from initiation to implementation. Example: Ensure that computers and monitors are optimized to reduce energy consumption and are turned off at the end of day.

Short Term: Action can begin after a short planning process. Low to moderate costs. Expect 3-12 months from initiation to implementation. Example: Develop a strategy for promoting and sharing VPD environmental initiatives.

Medium Term: Action can begin after a robust planning process. Low to high costs. Expect 1-3 years from initiation to implementation. Example: Develop a long-term strategic plan for environmental sustainability.

Long Term: Action can begin after a comprehensive planning process. Expect over 3 years from initiation to implementation. Example: Explore the use of fuels with higher ethanol and biodiesel concentrations.

1.1 Allot time at meetings to discuss environmental sustainability measures

Setting aside brief periods of time to discuss sustainable actions such as recycling, composting, water and energy use, idling, vehicle choice, and commuting would keep staff up-to-date on information and opportunities, and encourage behaviour change.

Example: Supervisors can update staff about sustainability initiatives during meetings. Examples include ensuring that staff are updated when new carpool parking spaces are made available, know about the guaranteed ride home program, are aware of when recycling rates fall behind, etc. Supervisors can ask about what else could be done to improve sustainability and identify problems or ideas to pass along to the Code Green Committee.

Possible Indicator: Number of issues identified, or ideas raised by staff and brought to the Code Green Committee.

Objective	Status	Timeline	Expected Benefits
Establish the VPD as a leader in green policing	Potential	Quick Win	Less waste Less water Lower GHG emissions Green transportation

1.2 Develop a strategy for promoting and sharing VPD environmental initiatives

Sharing actions that the VPD is taking to increase its sustainability through the media, in industry publications, and at conferences could help generate community and industry interest and support. By sharing the steps the VPD is taking to become a leader in green policing, other agencies may be encouraged and enabled to adopt similar measures.

Example: A member of the VPD could give an interview about green policing on a morning news show or with a local journalist. The VPD could share information promoting the financial and operational benefits of electric vehicles at a conference or in an industry magazine.

Possible Indicator: Number of media/industry engagements mentioning sustainability.

Objective	Status	Timeline	Expected Benefits
Establish the VPD as a leader in green policing	Potential	Short Term	Green operations Green leadership

1.3 Expand messaging around zero waste and recycling

Zero waste is about more than just reducing, reusing, and recycling – it's about avoiding waste in the first place. An important step in encouraging behaviour change is spreading awareness and providing people with a stake in the problem. Research shows that when people are made aware of how many others engage in a positive behaviour (e.g. 95% of people pay their taxes of time) they are more likely to engage in this behaviour themselves.

Example: Posting information about zero waste initiatives, alongside waste diversion statistics that encourage competition (e.g. Cambie vs. Graveley!). Zero waste promotion and information materials and strategies could be requested from the COV.

Possible Indicator: Number of communications addressing zero waste topics; waste diversion statistics.

Objective	Status	Timeline	Expected Benefits
Reduce the amount of waste produced by the VPD	Potential	Quick Win	Green operations Less waste

1.4 Promote energy conservation through signage in buildings and messaging on the Code Green website

Informing staff about the importance of energy conservation and providing "nudges" to encourage behavioral change can be effective strategies for saving energy. Posting energy use statistics and reminding staff of what others are doing to conserve energy are positive tools for encouraging change.

Example: Post building energy use information alongside tips for decreasing energy use. Show employees how their behaviour is helping to save energy and costs.

Possible Indicator: Number of communications addressing energy use and conservation; energy use statistics.

Objective	Status	Timeline	Expected Benefits
Reduce the carbon footprint of the VPD	Potential	Quick Win	Lower GHG emissions Green operations

1.5 Share positive stories of employees who use alternative commutes

Sharing positive stories of employees who commute on transit, through carpooling, or on their bicycles spreads awareness of the benefits of these methods and encourages others to try them.

Example: Share stories and profiles of green commuters through newsletters, emails, social media, posters, and videos. Use personal stories to promote the benefits (better health, less stressful commute, less expensive, etc.) of using transit, carpooling, and cycling.

Possible Indicator: Number of communications addressing green commuting; commuter modal share.

Objective	Status	Timeline	Expected Benefits
Reduce the carbon footprint of the VPD	Potential	Quick Win	Lower GHG emissions Green operations

1.6 Host wet-weather cycling training and information sessions

Cycling can be daunting in Vancouver's wet weather. Ensuring that employees and officers have access to helpful information, training, and gear would increase comfort and safety levels and encourage cycling during winter months.

Example: Host training and information sessions covering how to be visible, how to stay safe on slippery roads, winter bike maintenance, and useful gear. Place posters with wet-weather cycling information near bike racks and in changing facilities. Post tips for wet-weather cycling on Code Green website. Share information about the 15% discount rate that MEC has for first responders and similar programs at other retailers.

Possible Indicator: Number of training and information sessions held; page views on website featuring wet-weather cycling tips; cycling modal share during winter months.

Objective	Status	Timeline	Expected Benefits
Reduce the carbon footprint of the VPD	Potential	Quick Win	Lower GHG emissions Green operations

1.7 Implement an externally administered carpool ride-matching program

Carpool ride-matching programs allow employees to easily find and connect with carpooling partners. Websites such as carpool.ca minimize organizational and administrative requirements and have been successfully used by agencies such as the Calgary Police Service and Vancouver Coastal Health.

Example: Adopt an externally administered carpool ride-matching program such as carpool.ca and encourage employees to sign-up and use the service. Expand number of carpool parking spaces.

Possible Indicator: Number of rides matched through program; number of carpool parking spaces; carpool modal share.

Objective	Status	Timeline	Expected Benefits
Reduce the carbon footprint of the VPD	Potential	Quick Win	Lower GHG emissions Green operations

1.8 Enhance cycling facilities and amenities

Ensuring that there are safe and weather-protected spots for bicycle lock-up, adequate showers and lockers, and simple tools such as Allen keys, wrenches, and tire pumps available for use will help to eliminate barriers and encourage cycling.

Progress: Bicycle lock up spaces that are secure and weather protected, and adequate shower, locker and changing facilities, are available. Improvements could be made by ensuring that basic tools such as allen keys, wrenches and tire pumps are available for cyclists who need to make adjustments to their bicycles.

Possible Indicator: Number of secure and weather protected bike racks; presence of showers at VPD facilities; presence of basic bicycle maintenance tools at VPD buildings; bicycle modal share.

Objective	Status	Timeline	Expected Benefits
Reduce the carbon footprint of the VPD	In-progress	Quick Win	Lower GHG emissions Green leadership

1.9 Ensure that computers and monitors are optimized to reduce energy use and are turned off at the end of day

After lighting and heating, computers use the most energy in offices. Computers and monitors continue to consume energy in "sleep" mode. Optimizing computer settings for energy savings and encouraging employees to manually turn off computers and monitors will reduce the energy consumption of these devices. Distributing "Turn Me Off!" stickers, or creating a pop-up reminder when users log-off could help encourage behavior change.

Progress: Monitors and computers currently enter an energy saving sleep mode.
Possible Indicator: Electricity consumption of IT devices.

Objective	Status	Timeline	Expected Benefits
Reduce the carbon footprint of the VPD	In-progress	Quick Win	Lower GHG emissions Cost savings

1.10 Host bicycle maintenance learning sessions for employees

Unfamiliarity with bicycle maintenance and repair can be a barrier for some would-be cyclists. Hosting regular bicycle maintenance sessions that include a learning component can increase comfort with maintenance and repairs, and encourage cycling.

Progress: The VPD currently hosts a bicycle maintenance program where employees can drop bikes off to be fixed. Adding a more hands-on approach, where employees can learn about and perform maintenance themselves would increase the self-sufficiency and confidence of cyclists of all abilities. HUB Cycling, Kickstand, and Our Community Bikes are local organizations that offer bicycle maintenance training.
Possible Indicator: Number of bicycle maintenance and learning sessions held, cycling modal share.

Objective	Status	Timeline	Expected Benefits
Reduce the carbon footprint of the VPD	In-progress	Quick Win	Green leadership Lower GHG emissions

1.11 Encourage staff carpooling

Carpooling is an effective way of reducing demand for parking, reducing single-occupancy vehicle use and congestion, reducing emissions, and making staff commutes more enjoyable. Staff can be encouraged to carpool through carpooling parking spaces and other initiatives. This action can be linked to implementing a guaranteed ride home program and implementing a car-pool ride sharing site.

Progress: Parking spaces for carpool vehicles have been set aside at VPD facilities.
Possible Indicator: Number of carpooling parking spaces.

Objective	Status	Timeline	Expected Benefits
Reduce the carbon footprint of the VPD	In-progress	Quick Win	Lower GHG emissions Green leadership

1.12 Implement a bicycle purchasing loan program

Bicycle loan purchasing programs make it easier for employees to afford new bicycles and accessories up-front by offering low interest financing.

Progress: Low-interest loans are offered by the VPD credit union and are automatically repaid by employees via pay-check deductions. Partnering with local bicycle shops to offer discounts further reduces the barriers to purchasing bicycles and encourages employees to cycle.
Possible Indicator: Number of loans offered; dollar amount of loans; cycling modal share.

Objective	Status	Timeline	Expected Benefits
Reduce the carbon footprint of the VPD	Complete	Quick Win	Lower GHG emissions

1.13 Establish secure video/web conferencing capability in all major facilities to reduce travel

Secure and reliable teleconferencing facilities limit the need for air-travel and local-travel, reducing the GHG emissions produced by the VPD. Spreading awareness of the existence of these facilities, and providing training on their use, could help encourage uptake.

Progress: Teleconferencing facilities are currently available at major VPD facilities.
Possible Indicator: Number of meetings held through teleconferencing.

Objective	Status	Timeline	Expected Benefits
Reduce the carbon footprint of the VPD	Complete	Quick Win	Lower GHG emissions

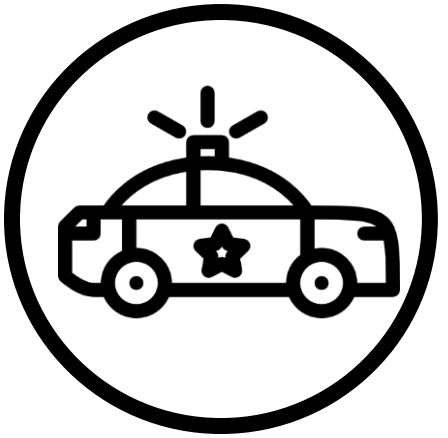
1.14 Implement and spread awareness of a guaranteed ride home program

Guaranteed ride home programs offer employees who cycle, take transit, or carpool with guaranteed rides home in emergencies. These programs generally allot an employee a set number of rides per year (around 4-6) or a dollar amount (such as $200) that can be used in case of unforeseen events that require a taxi or car share. These programs help relieve anxiety for employees who want to choose alternative commutes but have children or may need to make unexpected trips.

Progress: The VPD currently offers a guaranteed ride home program. Greater awareness and understanding of the program could be promoted.
Possible Indicator: Number of rides claimed through guaranteed ride home program. Transit, carpool, and cycling modal share.

Objective	Status	Timeline	Expected Benefits
Reduce the carbon footprint of the VPD	In-progress	Quick Win	Lower GHG emissions Green operations

2. Green Fleet



The VPD fleet is central to the success of all VPD operations. Reliable and high-performance vehicles are essential for police work in Vancouver. Because of the size and high usage of the fleet, changes and efficiency improvements can result in substantial environmental performance improvements. As fuel efficient and electric vehicle technology decreases in price, improving the sustainability of the fleet will not only yield environmental benefits, but financial benefits as well. Working towards a green fleet is one of the most significant actions the VPD can take to decrease GHG emissions and enhance its environmental sustainability. The COV's green fleet targets include a 30 percent reduction in C02 emissions by 2020, and a 50 percent reduction in C02 emissions by 2023. The environmental benefits of a green fleet are clear, the business case is strong, and the technology is ready.

2.1 Explore the use of fuels with higher ethanol and biodiesel concentrations

The VPD fleet currently uses E10 gasoline and B5 biodiesel fuels. By 2050, the COV plans to have all internal combustion engine vehicles in Vancouver running on biofuels. Conditional on the presence of adequate supply infrastructure, vehicle procurement decisions should consider vehicles that are compatible with higher ethanol and biodiesel concentration fuels. These fuels burn cleaner and have lower lifecycle C02 emissions than traditional fuels. However, not all biofuels are created equal, and lifecycle assessments of biofuels on land-use, food supply, and water use must be considered.

Example: Conduct a biofuel feasibility study, including lifecycle analysis, cost analysis, and analysis of supply infrastructure.

Possible Indicator: Lifecycle “well-to-wheel” C02 emissions reductions from biofuels, measured against traditional fuels.

Objective	Status	Timeline	Expected Benefits
Reduce the carbon footprint of the VPD	In-progress	Long Term	Lower GHG emissions Green operations

2.2 Recognizing the need for emergency response, expand the use of bicycle and foot patrols where appropriate

Where operationally appropriate, bicycle and foot patrols enable officers cover moderate distances, engage with the community on-the-ground, get exercise, and minimize GHG emissions. Recognizing that the need for emergency response must always take precedence, seeking opportunities to increase foot and bicycle patrols where appropriate could reduce vehicle emissions.

Example: Where determined to be operationally feasible, expanding bicycle and foot patrols.
Possible Indicator: Number of bicycle patrols; number of officers trained for bicycle patrols.

Objective	Status	Timeline	Expected Benefits
Reduce the carbon footprint of the VPD	Potential	Medium Term	Lower GHG emissions Green operations Cost savings

2.3 Look into operationally appropriate patrol options such as e-bikes

E-bikes offer alternatives to patrol cars and motorcycles that do not depend on fossil fuels. E-bikes have the capability to extend a bicycle patrol officer's range and speed, while providing the environmental and community policing benefits associated with regular bicycles. Where operationally appropriate, e-bike options should be considered.

Example: Where determined to be operationally and cost appropriate, e-bike options could be considered.
Possible Indicator: Number of e-bike patrols.

Objective	Status	Timeline	Expected Benefits
Reduce the carbon footprint of the VPD	Potential	Short Term	Lower GHG emissions Green operations Cost savings

2.4 Purchase electric vehicles and install charging infrastructure

Electric vehicles offer significant cost savings and GHG emission reductions when compared with internal combustion vehicles. The cost, performance, and range of EV options such as the electric Ford Focus make them ideal choices for the administrative fleet. As technology improves, EV technology and prices may enable high-performance electric patrol vehicles to be adopted. Proper charging infrastructure must be installed as the EV fleet expands.

Progress: The VPD has purchased a number of EVs. There are currently 22 non-patrol EVs and 22 charging stations at the Graveley facility.
Possible Indicator: Number of EVs and charging stations; vehicle kilometers traveled by EVs.

Objective	Status	Timeline	Expected Benefits
Reduce the carbon footprint of the VPD	In-progress	Medium Term	Lower GHG emissions Green operations Cost savings

2.5 Install IdleRight technology in patrol vehicles

IdleRight devices provide secondary batteries and ignition systems that allow vehicles to operate electrical components such as lights, sirens, and computers without draining the primary battery and risking a "dead" vehicle. This technology significantly reduces idle-time and enables cost savings and GHG emission reductions. IdleRight makes possible a 25% reduction in fuel consumption.

Progress: All new Dodge Chargers purchased since 2013 have been equipped with IdleRight technology. While IdleRight only applies to patrol cars, roughly 40% of the total fleet is equipped.
Possible Indicator: Number of patrol cars equipped with IdleRight; fuel consumption of patrol fleet.

Objective	Status	Timeline	Expected Benefits
Reduce the carbon footprint of the VPD	Complete	Medium Term	Lower GHG emissions Green operations Cost savings

2.6 Replace V8 patrol vehicles with more fuel efficient V6's

V6 police vehicles can often meet or exceed the performance of larger V8 models, while offering better fuel efficiency and cost savings. Where appropriate, vehicles with smaller and more efficient engines should be incorporated into the fleet.

Progress: All new Dodge Chargers purchased since 2013 have been fuel efficient V6 models.
Possible Indicator: Number of V6 patrol cars; fuel consumption of patrol fleet.

Objective	Status	Timeline	Expected Benefits
Reduce the carbon footprint of the VPD	Complete	Medium Term	Lower GHG emissions Green operations Cost savings

2.7 Optimize maintenance and fueling practices

Completing routine vehicle maintenance and fueling in a way that will minimize vehicle-kilometers traveled can reduce trips to maintenance yards, minimize congestion on local roads, save fuel, and reduce carbon emissions.

Progress: The VPD is currently exploring ways of optimizing maintenance and fueling to reduce trips.
Possible Indicator: Number of trips to maintenance yards.

Objective	Status	Timeline	Expected Benefits
Reduce the carbon footprint of the VPD	In-progress	Medium Term	Lower GHG emissions Green operations Cost savings

2.8 Ensure right sized vehicle deployment and response

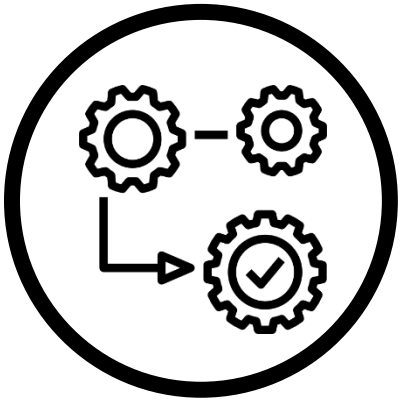
Right sizing means that the ideal vehicle is always dispatched to a situation. Ensuring right sized vehicle deployment and response means that larger and less efficient vehicles are only being deployed when necessary. Right sizing improves response and reduces fuel consumption.

Progress: The VPD has a robust right-sizing policy in place.
Possible Indicator: Fuel consumption of VPD fleet.

Objective	Status	Timeline	Expected Benefits
Reduce the carbon footprint of the VPD	Complete	Short Term	Lower GHG emissions Green operations Cost savings

3. Sustainable Operations

Sustainable operations include the organizational and administrative actions the VPD can take to enhance the environmental sustainability of internal operations. These actions are centered on building sustainability into every-day practices – from encouraging sustainable initiatives like the community gardens, to knowledge-sharing and promoting green policing externally. Embedding sustainability in strategic decision making and operations will help to establish the VPD as a global leader in sustainable policing, and reduce the impact of operations on the environment.



3.1 Establish a green policing network to enhance knowledge-sharing and promote environmental leadership

There is currently a lack of information and leadership in environmentally sustainable policing. Collaborative approaches to implementing environmental sustainability programs, such as the Green Care network have been successful in the health care industry. Establishing a green policing network could encourage police agencies to consider their environmental impact, share best practices, collaborate on solutions, and promote environmental leadership in policing.

Example: Create institutional links between police organizations that allow for knowledge-sharing and the promotion of green leadership. The financial, operational, and environmental benefits of green policing – and opportunities for knowledge-sharing and collaboration – could be raised with organizations such as the Canadian Association of Chiefs of Police (CPAC).

Possible Indicator: Number of police agencies in Canada with environmental sustainability goals in their strategic plan.

Objective	Status	Timeline	Expected Benefits
Establish the VPD as a leader in green policing	Potential	Medium Term	Green leadership

3.2 Monitor yearly C02e emissions from buildings and fleet internally

While the COV monitors the C02e emissions of the VPD, monitoring and tracking yearly C02e emissions internally will help to prioritize emissions reductions within VPD, assess the effectiveness of actions, and identify areas for improvement.

Example: Monitor and produce yearly internal report on VPD C02 emissions.
Possible Indicator: Yearly progress report on C02 emissions.

Objective	Status	Timeline	Expected Benefits
Establish the VPD as a leader in green policing	Potential	Medium Term	Green operations Lower GHG emissions

3.3 Develop a green policing action guide

Building on the work that has been done at the VPD to date, the development of a green policing action guide would help to share actionable strategies that could be implemented with other police agencies looking to green their operations.

Example: Create and share a document that features easily adaptable actions that could increase the sustainability of any police agency.
Possible Indicator: Creation of a green policing action guide.

Objective	Status	Timeline	Expected Benefits
Establish the VPD as a leader in green policing	Potential	Short Term	Green leadership

3.4 Increase the number of bees at Cambie and establish hive at Graveley

The bees at Cambie help to educate and excite staff as well as the public about nature and healthy ecosystems. They also pollinate local plants and produce honey that can be sold or donated. Expanding the size of the bee hives and exploring locations to establish new hives would enhance these benefits.

Progress: The bees at Cambie are well established and are producing a large amount of honey.
Possible Indicator: Liters of honey produced from hives at VPD sites.

Objective	Status	Timeline	Expected Benefits
Establish the VPD as a leader in green policing	In-progress	Short Term	Green leadership Healthy ecosystems

3.5 Purchase and use uniforms from companies with fair and ethical labour practices

The VPD not only has an obligation towards environmental sustainability, but social responsibility as well. Purchasing uniforms from ethical sources is key to ensuring the VPD remains true to its values. Clothing made in Canada or the United States, made by certified B Corporations, or certified with the Fair Trade logo, indicates that a certain set of ethical and labour standards were met in production.

Progress: Procurement decision criteria currently includes fair labour practices.
Possible Indicator: Percent compliance of purchases to procurement criteria.

Objective	Status	Timeline	Expected Benefits
Pursue green and ethical procurement	Complete	Short Term	Green leadership

3.6 Continue to support the Code Green Committee in promoting environmental sustainability at the VPD

Ensuring that sustainability initiatives are institutionalized and have internal champions is essential for their success. By coordinating members across departments, sharing successes and challenges, mentoring Greenest City Scholars, and pursuing initiatives, the members of Code Green have been leaders in greening the VPD.

Progress: Code Green has driven many of the green initiatives the VPD has taken to date. Members coordinate resources and staff to advance sustainability goals.

Possible Indicator: Qualitative assessments of effectiveness by Code Green members.

Objective	Status	Timeline	Expected Benefits
Establish the VPD as a leader in green policing	In-progress	Short Term	Green leadership Green operations

3.7 Continue to coordinate with the COV and UBC to participate in the Greenest City Scholars program

The Greenest City Scholars program connects graduate students at UBC with local organizations that require research on sustainability. VPD has successfully hosted a number of scholars who have completed projects on electric vehicles, idle-management, waste reduction, and employee transportation options.

Progress: Projects have been completed on electric vehicle feasibility, idle-management, waste reduction and recycling, and transportation options for employees.

Possible Indicator: Number of Greenest City Scholars projects completed.

Objective	Status	Timeline	Expected Benefits
Establish the VPD as a leader in green policing	In-progress	Medium Term	Green leadership Green operations

3.8 Develop a strategic plan for environmental sustainability

Developing a strategic plan for environmental sustainability will establish the VPD as a global leader in environmentally sustainable policing. A strategic plan would organize the VPD around a common vison and objectives, establish a set of strategies and actions, and provide a clear framework for implementation, monitoring, and evaluation. The plan could establish the global standard for green policing and encourage other agencies to follow the VPD's example.

Progress: The VPD is currently working towards creating a strategic plan for environmental sustainability.
Possible Indicator: Development of a strategic plan for environmental sustainability.

Objective	Status	Timeline	Expected Benefits
Establish the VPD as a leader green policing	In-progress	Medium Term	Green leadership Green operations

3.9 Continue to support the community gardens at Cambie and Graveley

The community gardens at Cambie and Graveley are an excellent way of producing healthy local food and raising the profile of sustainability at the VPD. Ensuring continued support will allow for greater food production and encourage more volunteers to participate.

Progress: Community gardens exist at Cambie and Graveley. They are active and productive, and receive funding.
Possible Indicator: Productivity of community gardens; number of staff involved in volunteering at gardens.

Objective	Status	Timeline	Expected Benefits
Establish the VPD as a leader in green policing	In-progress	Short Term	Green leadership Healthy ecosystems

3.10 Encourage laundry practices that conserve water, are environmentally friendly, and are energy efficient

Placing a high priority on environmental considerations in requests for proposals (RFP) for laundry services can significantly reduce the impact of the VPD on local ecosystems. Ensuring that dry-cleaning does not use tetrachloroethylene (aka PERC) or other harmful chemicals, and that packaging and hangers are recycled or reused are key considerations in ensuring environmentally friendly cleaning.

Progress: The VPD currently partners with laundry service providers that meet rigorous environmental standards.

Possible Indicator: Percent compliance of laundry service contracts with environmental standards.

Objective	Status	Timeline	Expected Benefits
Pursue green and ethical procurement	Complete	Short Term	Green leadership Healthy ecosystems

3.11 Develop a framework for purchasing 3rd-party environmentally certified products

Purchasing products that are certified by environmental labels recognized by the Canadian Office of Consumer Affairs helps to ensure the VPD's purchases are not creating unduly negative environmental impacts. Examples of federally recognized labels include EcoLogo, Forest Stewardship Council (FSC), Sustainable Forestry Initiative, Canadian Standards Association, Fairtrade Canada, Marine Stewardship Council, and Canada Organic.

Progress: Procurement decisions currently incorporate environmental considerations and environmental certifications.

Possible Indicator: Percent compliance of purchases with certified environmental labels.

Objective	Status	Timeline	Expected Benefits
Pursue green and ethical procurement	Complete	Short Term	Green leadership Healthy ecosystems

3.12 Apply life-cycle assessments to equipment procurement

Life-cycle assessments are intended to incorporate the totality of a product's production, transportation, use, and disposal into the evaluation of its environmental impacts. Incorporating life-cycle assessment considerations into procurement RFPs reduces environmental impacts and lowers long-term costs.

Progress: Lifecycle analysis is currently applied to procurement decisions.
Possible Indicator: Percent of procurement decisions incorporating lifecycle assessments.

Objective	Status	Timeline	Expected Benefits
Pursue green and ethical procurement	Complete	Short Term	Green operations Healthy ecosystems

3.13 Minimize air-travel

Air travel has a high environmental impact. For example, a round-trip flight to Ottawa produces 1.74 tons of C02e per passenger - the equivalent of one car driving for 6,800 kms. Recognizing the need for essential investigative and executive travel, reducing all non-essential air-travel lowers costs and reduces GHG emissions.

Progress: Air-travel is currently minimal and limited to essential investigative and executive functions.
Possible Indicator: Number of flights approved for non-essential travel.

Objective	Status	Timeline	Expected Benefits
Reduce the carbon footprint of the VPD	In-progress	Short Term	Lower GHG emissions Cost savings

3.14 Partner with environmentally sustainable suppliers

Integrating sustainability into RFPs helps to secure local suppliers and delivery services which use cargo-bikes, electric vehicles, or other green transportation options. Transportation can account for a significant portion of a products lifecycle impact. Ensuring green delivery lowers the GHG emissions associated with VPD operations and contributes to the health of the local environment.

Progress: The sustainability of suppliers is currently incorporated into procurement decisions.
Possible Indicator: Estimated carbon emissions of suppliers and delivery services.

Objective	Status	Timeline	Expected Benefits
Reduce the carbon footprint of the VPD	Complete	Short Term	Lower GHG emissions Green operations

4. Zero Unnecessary Waste

Generating waste is an unavoidable part of policing. Because of potential hazards, many items used by police are single-use only and cannot be recycled. Other police items and pieces of equipment at the end-of-life cannot be donated or recycled due to security concerns. Officers may not have the facilities or the time to properly recycle items when on-duty. Yet, despite these challenges, much can be done to reduce the generation of unnecessary waste and recycle as much as possible. There are many actions that can be taken to reduce the amount the VPD disposes, minimize the impact of those items that must be thrown away, and recycle or reuse everything else.

4.1 Where operationally feasible, ensure single-use items are biodegradable

Police work requires the use of single-use disposable items. Where operationally feasible, cost-effective biodegradable options with minimal environmental impacts should be pursued.

Example: Purchase and test a number of biodegradable options to determine feasibility. Disposable gloves made from nitrile are biodegradable, contain no latex, and perform equally to standard gloves. Caution tape made from non-woven cellulosic material that is derived from wood pulp is biodegradable.

Possible Indicator: Feasibility study on biodegradable single-use items completed.

Objective	Status	Timeline	Expected Benefits
Pursue green and ethical procurement	Potential	Short Term	Less waste

4.2 Explore paper use reductions such as records digitization

Opportunities to reduce paper use may exist within the VPD. Working with the legal department to find ways of reducing paper use that comply with the requirements of external stakeholders could yield significant paper use reductions and streamline workflows.

Example: Work with the Courts and other stakeholders to determine areas where paper use can be reduced.

Possible Indicator: Annual printing costs.

Objective	Status	Timeline	Expected Benefits
Reduce the amount of waste produced by the VPD	Potential	Medium Term	Less waste Cost savings

4.3 Implement bring your own mug and bring your own container programs

2.6 million paper and plastic cups are thrown away every week in Vancouver. Nearly 50% of the waste in public bins is disposable cups and take-out containers. Spreading awareness about the impact of single-use cups and containers, along with encouraging employees to use reusable cups and containers will reduce the amount of waste produce by the VPD. A list of convenient coffee shops that offer discounts for coffee purchased in reusable mugs could be shared.

Example: Advertise reusable mugs to VPD employees and share information on the impact of disposable cups and containers. Create a list of coffee shops that offer discounts for reusable mugs and/or first responders and share with employees.

Possible Indicator: Number of disposable cups counted in waste audits of VPD facilities.

Objective	Status	Timeline	Expected Benefits
Reduce the amount of waste produced by the VPD	Potential	Quick Win	Less waste

4.4 Implement a uniform recycling program

The VPD produces around 7000 kg of police uniform waste annually - most of which is incinerated. Decommissioned uniforms are challenging to dispose of. Security concerns prevent uniforms from being donated to local or international charities, and the VPD does not have textile shredding facilities. Continuing to work towards a solution that allows uniforms to be recycled and diverts uniform waste from incinerators is key to reducing the waste produced by the VPD.

Progress: Finding ways of best managing uniform waste has been on the agenda for some time. A previous Greenest City Scholar report recommended reducing the amount of uniforms disposed of, in addition to switching from incineration to shredding and recycling. Shredding and recycling has not yet been implemented.

Possible Indicator: Amount of uniform waste recycled (kg).

Objective	Status	Timeline	Expected Benefits
Reduce the amount of waste produced by the VPD	In-progress	Short Term	Less waste

4.5 Purchase and use high quality, long-lasting, and durable equipment and uniforms

Purchasing the highest quality equipment and uniforms that are long-lasting, durable, and easily reparable extends the lifespan of these items and reduces the need for new purchases by the VPD. This can reduce overall costs and reduce the need to dispose of items.

Progress: Procurement decisions prioritize, tough, durable, comfortable, and high performance uniforms and equipment that minimize the need for replacement and disposal.

Possible Indicator: New uniforms and equipment items purchased per officer per year.

Objective	Status	Timeline	Expected Benefits
Pursue green and ethical procurement	Complete	Short Term	Less waste Cost savings

4.6 Ensure that printers use 100% recycled paper and vegetable-based inks

100% FSC-certified recycled paper is comparable in cost and performance to virgin-fiber paper and is much more sustainable. In ink-jet printers, the use of vegetable-based inks reduces the demand for petroleum and reduces the amount of volatile organic compounds released into the air.

Progress: COV policy ensures that sustainability considerations are written into RFPs for printing services.
Possible Indicator: 100% recycled paper as percentage of total paper use.

Objective	Status	Timeline	Expected Benefits
Pursue green and ethical procurement	Complete	Short Term	Healthy ecosystems Green operations

4.7 Shred and recycle recovered weapons and firearms

Metal shredding is a safe, secure, and cost-effective way of destroying recovered or donated weapons and firearms. Shredded metal can be sold as scrap to metal recyclers.

Progress: A metal shredder at the property office is being used to shred recovered and donated weapons and firearms. Shredded metal is sold as scrap to recyclers.
Possible Indicator: Amount of scrap metal sold to recyclers (kg).

Objective	Status	Timeline	Expected Benefits
Reduce the amount of waste produced by the VPD	Complete	Medium Term	Less waste

4.8 Shift property office auction to an online format

Online auction formats increase the accessibility of the property office auction and allow more goods to be resold and reused, reducing the possibility of having to discard items. Many Ontario police agencies and transit authorities have collaborated to successfully adopt this model and sell unclaimed property through policeauctionscanada.com.

Progress: The annual VPD recovered goods auction is held through Able Auctions Surrey. Online previewing of some items is currently available, however, items cannot be bought online.

Possible Indicator: Number of items sold through online auction.

Objective	Status	Timeline	Expected Benefits
Reduce the amount of waste produced by the VPD	In-progress	Medium Term	Less waste Cost savings

4.9 Explore opportunities to digitize tickets

Provincial ticketing technology allows officers to enter information digitally and print tickets from their vehicle. Payments can then be made online. Exploring ways of eliminating paper copies while complying with regulations will reduce paper use by the VPD.

Progress: E-ticket technology is currently being tested.

Possible Indicator: E-tickets issued, as a percentage of total tickets.

Objective	Status	Timeline	Expected Benefits
Reduce the amount of waste produced by the VPD	In-progress	Medium Term	Less waste

4.10 Require external stakeholders to submit documents electronically and accept no paper copies

Where appropriate, requiring the submission of documents, invoices, and bills electronically reduces the amount of paper used by the VPD and improves work-flow.

Progress: VPD practices electronic billing and exchanges minimal paper with external stakeholders.
Possible Indicator: Number of paper bills received.

Objective	Status	Timeline	Expected Benefits
Reduce the amount of waste produced by the VPD	In-progress	Medium Term	Less waste

4.11 Install on-site composting bins at the community gardens

On-site composting bins allow organic trimmings to be composted and reintroduced into the soil. Locating composting on-site reduces emissions from compost collection and enhances the soil quality of the community gardens.

Progress: Composting bins are currently installed at the community gardens.
Possible Indicator: Number of compost bins.

Objective	Status	Timeline	Expected Benefits
Reduce the amount of waste produced by the VPD	Complete	Quick Win	Less waste Healthy ecosystems

4.12 Recycle copper bullets from the Tactical Training Centre (TTC)

The recovery of copper bullets from the TTC allows for the recovery of around 3.5 tonnes of copper per year. Revenue is generated by selling the recovered copper to metal recyclers at market rates.

Progress: Under current practices, every bullet fired at the TTC is supposed to be recovered and recycled.
Possible Indicator: Amount of bullets recycled (kg) per year.

Objective	Status	Timeline	Expected Benefits
Reduce the amount of waste produced by the VPD	Complete	Short Term	Less waste Cost savings

4.13 Use PaperCut software to reduce printing

PaperCut software monitors printing and issues prompts before completing large print jobs. It is effective in reducing the amount of paper used for printing.

Progress: PaperCut software is installed on VPD computers.
Possible Indicator: Total pages printed per year.

Objective	Status	Timeline	Expected Benefits
Reduce the amount of waste produced by the VPD	Complete	Short Term	Less waste Cost savings

4.14 Encourage the use of electronic approvals for administrative matters

Encouraging the use of electronic approvals where appropriate can reduce paper use. Granting approvals through email or e-signatures, where technically feasible, can streamline workflow and reduce printing.

Progress: Approvals can currently be granted through email and do not require signatures on paper.
Possible Indicator: Number processes where e-signature technology replaces paper signatures.

Objective	Status	Timeline	Expected Benefits
Reduce the amount of waste produced by the VPD	Complete	Short Term	Less waste

Conclusion

The VPD is leading the way towards greener policing. As local, provincial, and national governments ramp up their efforts to meet climate targets, enhance environmental quality, adapt to climate change, and green their operations, police agencies around the world will have to respond by boosting their environmental sustainability. The actions recommended in this report demonstrate that environmental objectives are compatible with police operations. Public safety and environmental sustainability are not at odds – indeed, given the harm threatened by climate change, ensuring environmental sustainability is essential to enhancing public safety.

Next Steps

Many of the actions recommended in this report are already underway at the VPD. Actions that are not yet underway could be considered by the executive leadership team and the Code Green Committee. Quick wins such as enhancing cycling facilities by providing basic tools, posting building waste diversion statistics, purchasing biodegradable single-use items, and implementing an externally administered carpool ride-matching program could be pursued immediately. In-progress actions could be reviewed to prioritize resources and maximize impact. Sharing information about the

Key Recommendation

The most effective strategy for greening the VPD will be to establish green operations as a leadership priority and create a strategic plan for environmental sustainability.

In an organization like the VPD, change begins at the top. Recognizing the need for green operations and demonstrating a leadership commitment to green policing will encourage and enable change at every other level of the organization.

progress the VPD is making towards environmental sustainability could help to encourage and enable other police agencies to green their operations.

In pursuing environmental leadership, the VPD will continue to see environmental, social, and financial benefits. Pursuing actions that include enhancing awareness and green behaviour, greening the fleet, embedding sustainable operations, and incorporating a zero-waste approach will reduce the carbon footprint of the VPD, reduce the amount of waste produced and discarded, ensure that procurement is green and ethical, and establish the VPD as a leader in environmentally sustainable policing.

Appendix

Objectives

Carbon footprint: Reduce the carbon footprint of the VPD 

Waste: Reduce the amount of waste produced by the VPD 

Procurement: Pursue environmentally friendly and ethical procurement 

Leadership: Establish the VPD as a leader in green policing 

	Action		Possible Indicator	Objective	Progress
Awareness and Green Behaviour	**1.1**	Allot time at meetings to discuss environmental sustainability measures	Number of issues identified, or ideas raised by staff and brought to the Code Green Committee.		Potential
	1.2	Develop a strategy for promoting and sharing VPD environmental initiatives	Number of media/industry engagements mentioning sustainability		Potential
	1.3	Expand messaging around zero waste and recycling	Number of communications addressing zero waste topics; waste diversion statistics.		Potential
	1.4	Promote energy conservation through signage in buildings and messaging on the Code Green website	Number of communications addressing energy use and conservation; energy use statistics.		Potential

	1.5	Share positive stories of employees who use alternative commutes	Number of communications addressing green commuting; commuter modal share.		Potential
	1.6	Host wet-weather cycling training and information sessions	Number of training and information sessions held; page views on website featuring wet-weather cycling tips; cycling modal share during winter months.		Potential
	1.7	Implement an externally administered carpool ride-matching program	Number of rides matched through program; number of carpool parking spaces; carpool modal share.		Potential
	1.8	Enhance cycling facilities and amenities	Number of secure and weather protected bike racks; presence of showers at VPD facilities; presence of basic bicycle maintenance tools at VPD buildings; bicycle modal share.		In-progress
	1.9	Ensure that computers and monitors are optimized to reduce energy use and are turned off at the end of day	Electricity consumption of IT devices.		In-progress
	1.10	Host bicycle maintenance learning sessions for employees	Number of bicycle maintenance and learning sessions held, cycling modal share.		In-progress
	1.11	Encourage staff carpooling	Number of carpooling parking spaces.		In-progress
	1.12	Implement a bicycle purchasing loan program	Number of loans offered; dollar amount of loans; cycling modal share.		Completed

	1.13	Establish secure video/web conferencing capability in all major facilities to reduce travel	Number of meetings held through teleconferencing.		Completed
	1.14	Implement and spread awareness of a guaranteed ride home program	Number of rides claimed through guaranteed ride home program. Transit, carpool, and cycling modal share.		In-progress
Green Fleet	**2.1**	Explore the use of fuels with higher ethanol and biodiesel concentrations	Lifecycle “well-to-wheel” C02 emissions reductions from biofuels, measured against traditional fuels.		In-progress
	2.2	Recognizing the need for emergency response, expand the use of bicycle and foot patrols where appropriate	Number of bicycle patrols; number of officers trained for bicycle patrols.		Potential
	2.3	Look into operationally appropriate patrol options such as e-bikes	Number of e-bike patrols.		Potential
	2.4	Purchase electric vehicles and install charging infrastructure	Number of EVs and charging stations; vehicle kilometers traveled by EVs		In-progress
	2.5	Install IdleRight technology in patrol vehicles	Number of patrol cars equipped with IdleRight; fuel consumption of patrol fleet.		Completed
	2.6	Replace V8 patrol vehicles with more fuel efficient V6's	Number of V6 patrol cars; fuel consumption of patrol fleet.		Completed
	2.7	Optimize maintenance and fueling practices	Number of trips to maintenance yards.		In-progress
	2.8	Ensure right sized vehicle deployment and response	Fuel consumption of VPD fleet.		Completed

Sustainable Operations	**3.1**	Establish a green policing network to enhance knowledge-sharing and promote environmental leadership	Number of police agencies in Canada with environmental sustainability goals in their strategic plan.		Potential
	3.2	Monitor yearly C02e emissions from buildings and fleet internally	Yearly progress report on C02 emissions.		Potential
	3.3	Develop a green policing action guide	Creation of a green policing action guide.		Potential
	3.4	Increase the number of bees at Cambie and establish hive at Graveley	Liters of honey produced from hives at VPD sites.		In-progress
	3.5	Purchase and use uniforms from companies with fair and ethical labour practices	Percent compliance of purchases to procurement criteria.		Completed
	3.6	Continue to support the Code Green Committee in promoting environmental sustainability at the VPD	Qualitative assessments of effectiveness by Code Green members.		In-progress
	3.7	Continue to coordinate with the COV and UBC to participate in the Greenest City Scholars program	Number of Greenest City Scholars projects completed.		In-progress
	3.8	Develop a Strategic Plan for Environmental Sustainability	Development of a strategic plan for environmental sustainability.		In-progress
	3.9	Continue to support the community gardens at Cambie and Graveley	Productivity of community gardens; number of staff involved in volunteering at gardens.		In-progress

	3.10	Encourage laundry practices that conserve water, are environmentally friendly, and are energy efficient	Percent compliance of laundry service contracts with environmental standards		Completed
	3.11	Develop a framework for purchasing 3rd-party environmentally certified products	Percent compliance of purchases with certified environmental labels.		Completed
	3.12	Apply life-cycle assessments to equipment procurement	Percent of procurement decisions incorporating lifecycle assessments		Completed
	3.13	Minimize air-travel	Number of flights approved for non-essential travel.		In-progress
	3.14	Partner with environmentally sustainable suppliers	Estimated carbon emissions of suppliers and delivery services.		Completed
Zero Unnecessary Waste	**4.1**	Where operationally feasible, ensure single-use items are biodegradable	Feasibility study on biodegradable single-use items completed		Potential
	4.2	Explore paper use reductions such as records digitization	Annual printing costs.		Potential
	4.3	Implement bring your own mug and bring your own container programs	Number of disposable cups counted in waste audits of VPD facilities.		Potential
	4.4	Implement a uniform recycling program	Amount of uniform waste recycled (kg).		In-progress
	4.5	Purchase and use high quality, long-lasting, and durable equipment and uniforms	New uniforms and equipment items purchased per officer per year.		Completed

	4.6	Ensure that printers use 100% recycled paper and vegetable-based inks	100% recycled paper as percentage of total paper use.		Completed
	4.7	Shred and recycle recovered weapons and firearms	Amount of scrap metal sold to recyclers (kg).		Completed
	4.8	Shift property office auction to an online format	Number of items sold through online auction.		In-progress
	4.9	Explore opportunities to digitize tickets	E-tickets issued, as a percentage of total tickets.		In-progress
	4.10	Require external stakeholders to submit documents electronically and accept no paper copies	Number of paper bills received.		In-progress
	4.11	Install on-site composting bins at the community gardens	Number of compost bins.		Completed
	4.12	Recycle copper bullets from the Tactical Training Centre (TTC)	Amount of bullets recycled (kg) per year.		Completed
	4.13	Use PaperCut software to reduce printing	Total pages printed per year.		Completed
	4.14	Encourage the use of electronic approvals for administrative matters	Number processes where e-signature technology replaces paper signatures.		Completed

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