

# Algorithmic Impact Assessment Results

Version: 0.9

## Name of Respondent

Christopher Allison

## Job Title

Chief Data Officer

## Department

Public Health Agency of Canada

## Branch

Corporate Data and Surveillance Branch

## Project Title

ArriveCAN Proof of Vaccination Recognition

## Departmental Program (from Department Results Framework)

Quarantine Facilities and COVID-19 Border Measures

## Project Phase

Implementation

[ Points: 0 ]

## Please provide a project description:

ArriveCAN is a digital platform that is being used to collect travel and COVID-19-related health information from individuals traveling to Canada. By automating the scanning of travellers' proof of vaccination using Optical Character Recognition (OCR) technology, ArriveCAN augments the government's capacity to process incoming travellers and enhances its readiness to adapt to the gradual reopening of the border to international travellers. Subject to limited exceptions, all travellers must use ArriveCAN (through a mobile app or web portal) to submit their travel information and proof of vaccination. Scanned proofs of vaccination help inform whether a traveller is eligible to enter Canada and any quarantine or other requirements they may be subject to following their entry. Data collected through ArriveCAN is also used to support post-border enforcement actions. ArriveCAN is not intended to make any administrative decisions regarding a traveller's eligibility to enter Canada. Rather, it assists border services officers in assessing eligibility and applicable quarantine requirements. Where the platform fails to recognize a proof of vaccination, a traveller would undergo a manual inspection of their documentation. Border services officers can decide whether and how to leverage ArriveCAN to inform their decisions.

## What is motivating your team to introduce automation into this decision-making process?

### (Check all that apply)

Improve overall quality of decisions

Other (please specify)

Lower transaction costs of an existing program

Use innovative approaches

**Please describe**

Expedite border processing for incoming travellers and minimize border wait times and points of contact.

**Please check which of the following capabilities apply to your system.**

Image and object recognition: Analyzing very large data sets to automate the recognition, classification, and context associated with an image or object.

Process optimization and workflow automation: Analyzing large data sets to identify and anomalies, cluster patterns, predict outcomes or ways to optimize; and automate specific workflows

Text and speech analysis: Analyzing large data sets to recognize, process, and tag text, speech, voice, and make recommendations based on the tagging

## **Section 1: Impact Level : 2**

*Current Score: 47*

*Raw Impact Score: 47*

*Mitigation Score: 28*

## **Section 2: Requirements Specific to Impact Level 2**

### **Peer Review**

At least one of: Qualified expert from a federal, provincial, territorial or municipal government institution. Qualified members of faculty of a post-secondary institution. Qualified researchers from a relevant non-governmental organization. Contracted third-party vendor with a related specialization. Publishing specifications of the Automated Decision System in a peer-reviewed journal. A data and automation advisory board specified by Treasury Board Secretariat.

### **Notice**

Plain language notice posted through all service delivery channels in use (Internet, in person, mail or telephone).

### **Human-in-the-loop for decisions**

Decisions may be rendered without direct human involvement.

### **Explanation Requirement**

In addition to any applicable legal requirement, ensuring that a meaningful explanation is provided with any decision that resulted in the denial of a benefit, a service, or other regulatory action.

### **Training**

Documentation on the design and functionality of the system.

# Contingency Planning

None

## Approval for the system to operate

None

## Other Requirements

The Directive on Automated Decision-Making also includes other requirements that must be met for all impact levels.

[Link to the Directive on Automated Decision-Making](#)

Contact your institution's ATIP office to discuss the requirement for a Privacy Impact Assessment as per the Directive on Privacy Impact Assessment.

## Section 3: Questions and Answers

### Section 3.1: Impact Questions and Answers

Is the project within an area of intense public scrutiny (e.g. because of privacy concerns) and/or frequent litigation?

Yes [ Points: +3 ]

Are clients in this line of business particularly vulnerable?

No [ Points: +0 ]

Are stakes of the decisions very high?

No [ Points: +0 ]

Will this project have major impacts on staff, either in terms of their numbers or their roles?

No [ Points: +0 ]

Will you require new policy authority for this project?

Yes [ Points: +2 ]

The algorithm used will be a (trade) secret

Yes [ Points: +3 ]

The algorithmic process will be difficult to interpret or to explain

No [ Points: +0 ]

Does the decision pertain to any of the categories below (check all that apply):

Access and mobility (security clearances, border crossings) [ Points: +1 ]

Health related services [ Points: +1 ]

Will the system only be used to assist a decision-maker?

Yes [ Points: +1 ]

Will the system be replacing a decision that would otherwise be made by a human?

No [ Points: +0 ]

**Will the system be replacing human decisions that require judgement or discretion?**

No [ Points: +0 ]

**Is the system used by a different part of the organization than the ones who developed it?**

Yes [ Points: +4 ]

**Are the impacts resulting from the decision reversible?**

Reversible [ Points: +1 ]

**How long will impacts from the decision last?**

Impacts are most likely to be brief [ Points: +1 ]

**Please describe why the impacts resulting from the decision are as per selected option above.**

While decisions concerning eligibility to enter Canada and post-border public health requirements may be impactful, the impacts of ArriveCAN outputs aren't necessarily significant and can be considered reversible. For example, if ArriveCAN is unable to recognize a traveller's proof of vaccination, a border services officer will manually inspect the proof of vaccination and determine eligibility and post-border requirements accordingly. In this scenario, the impact of the platform's outputs is both reversible and brief in duration. ArriveCAN is also part of a wider landscape of tools border services officers employ to inform their decisions. Discretionary factors help determine the role of ArriveCAN in processing travellers at the border. The impact of the platform's outputs depends on whether and how they are used by border services officers in their assessments.

**The impacts that the decision will have on the rights or freedoms of individuals will likely be:**

Little to no impact [ Points: +1 ]

**Please describe why the impacts resulting from the decision are (as per selected option above).**

The use of ArriveCAN is not anticipated to have significant implications for individual rights and freedoms. This is mainly because the platform is not making any administrative or other decisions affecting legal rights, privileges, or interests. The platform's recognition of a traveller's proof of vaccination only assists in the assessment of a traveller's eligibility to enter Canada (given applicable entry requirements at the time of travel). Failure of ArriveCAN to successfully recognize a proof of vaccination would not deprive a traveller from assessment at the border. In this case, a border services officer will manually inspect the proof of vaccination and determine eligibility and post-border requirements accordingly.

**The impacts that the decision will have on the health and well-being of individuals will likely be:**

Little to no impact [ Points: +1 ]

**Please describe why the impacts resulting from the decision are (as per selected option above)**

The use of ArriveCAN is not anticipated to adversely impact travellers' health or the public health of Canadians. The use of ArriveCAN is intended to bolster the government's capacity to adapt to anticipated increases in the volume of travellers to Canada in a way that safeguards public health. The use of the platform will ensure that operational burdens do not limit the government's ability to scrutinize the vaccination status of all incoming travellers. The automation ensures that checks are performed for every proof of vaccination document, helping minimize potential risks of fraud.

**The impacts that the decision will have on the economic interests of individuals will likely be:**  
Little to no impact [ Points: +1 ]

**Please describe why the impacts resulting from the decision are (as per selected option above)**

The use of ArriveCAN is not anticipated to have significant implications for the economic interests of individuals. This is mainly because the platform is not making any administrative or other decisions affecting legal rights, privileges, or interests. The platform's recognition of a traveller's proof of vaccination only assists in the assessment of a traveller's eligibility to enter Canada (given applicable entry requirements at the time of travel). Failure of ArriveCAN to successfully recognize a proof of vaccination would not deprive a traveller from assessment at the border or cause them to incur costs. In this case, a border services officer will manually inspect the proof of vaccination and determine eligibility and post-border requirements accordingly.

**The impacts that the decision will have on the ongoing sustainability of an environmental ecosystem, will likely be:**

Little to no impact [ Points: +1 ]

**Please describe why the impacts resulting from the decision are (as per selected option above)**

The use of ArriveCAN is not anticipated to have significant environmental implications. As a digital platform, ArriveCAN may help reduce the government's reliance on paper-based processes at the border.

**Will the Automated Decision System use personal information as input data?**

Yes [ Points: +4 ]

**Have you verified that the use of personal information is limited to only what is directly related to delivering a program or service?**

Yes [ Points: +0 ]

**Is the personal information of individuals being used in a decision-making process that directly affects those individuals?**

Yes [ Points: +2 ]

**Have you verified if the system is using personal information in a way that is consistent with: (a) the current Personal Information Banks (PIBs) and Privacy Impact Assessments (PIAs) of your programs or (b) planned or implemented modifications to the PIBs or PIAs that take new uses and processes into account?**

Yes [ Points: +0 ]

**What is the highest security classification of the input data used by the system? (Select one)**

Protected B / Protected C [ Points: +3 ]

**Who controls the data?**

Federal government [ Points: +1 ]

**Will the system use data from multiple different sources?**

No [ Points: +0 ]

**Will the system require input data from an Internet- or telephony-connected device? (e.g. Internet of Things, sensor)**

Yes [ Points: +4 ]

**Will the system interface with other IT systems?**  
Yes [ Points: +4 ]

**Who collected the data used for training the system?**  
Another federal institution [ Points: +2 ]

**Who collected the input data used by the system?**  
Another federal institution [ Points: +2 ]

**Will the system require the analysis of unstructured data to render a recommendation or a decision?**  
Yes [ Points: 0 ]

**What types of unstructured data? (Check all that apply)**  
Images and videos [ Points: +4 ]

## Section 3.2: Mitigation Questions and Answers

**Internal Stakeholders (Strategic policy and planning, Data Governance, Program Policy, etc.)**  
Yes [ Points: +1 ]

**Which Internal Stakeholders have you engaged?**

Data Governance  
Program Policy  
Legal Services  
Access to Information and Privacy Office  
Communications  
Client Experience / Client Relationship Management  
Strategic Policy and Planning

**External Stakeholders (Civil Society, Academia, Industry, etc.)**  
Yes [ Points: +1 ]

**Which External Stakeholders have you engaged?**

Other (describe)  
Office of the Privacy Commissioner  
Industry  
**Please describe**

**\*AIR CARRIERS\*:** Air Canada, WestJet, Jazz Air, Air Canada Rouge, Air Transat, Porter Airlines, United Airlines, Sunwing, Sky Regional Airlines, Delta Airlines, American Airlines, Cathy Pacific, Harbour Air, Alkan Air.**\*CANADA BORDER SERVICES AGENCY (CBSA)\*:** NEXUS Members (1.8 million), Free and Secure Trade (FAST) program (55,000 members), FAST webpage Trusted Travellers programs, CANPASS (approx. 10,500 members), Commercial Driver Registration Program - CDRP (approximately 1600 members), Pilot Project for Travelers in remote Areas, Quebec –PPTRA-Q (approx. 900 members), Air Carriers, Canadian Owners Pilot Association (COPA), Canadian Business Aviation Association (CBAA).**\*EMPLOYMENT AND SOCIAL DEVELOPMENT CANADA (ESDC)\*:** Community Airport Newcomers Network's TFW Webpage, Migrant Worker Hub (AMSSA), MOSAICs Facebook page for Migrant Workers, Service Canada offices, Passport offices.**\*GLOBAL AFFAIRS CANADA (GAC)\*:** Association of Canadian Travel

Agencies (ACTA), Canadian Life and Health Insurance Association (CLHIA), Travel Health Insurance Association of Canada (THIA), Global Business Travel Association (GBTA), Canadian Association of Tour Operators (CATO), World Travel Protection Canada Inc. (WTP), Travel Professional International, Établissements d'enseignement supérieur du Qc, Association of Canadian Travel Agencies (ACTA), CAA Québec, Canadian Consular Sections - all missions, Canadians registered in ROCA.\*HEALTH CANADA (HC)\*: Allianz, Manulife, RBC & RBC Avion Visa, TD & TD First Class Infinite, Desjardins & Desjardin Oddysey Credit Card, Blue Cross, BMO Airmiles MasterCard & BMO World Elite, Scotiabank Passport VISA Infinite, HSBC World Elite, American Express Gold Card, AirMiles, VoyagesBergeron.com, CheapOair.ca, Costco Travel, Escapes, Expedia, Authentik, Trip Central, Just Fly, Sky Scanner, Medicpac, Tour+Med, Flight Center, Intact Insurance, AIG Travel Guard, La Capitale, PC Insurance, iA Financial Group, MBNA, National Bank, CIBC, Milesopedia, Marriot Bonvoy, Hilton Honors, IHG, Wyndham, Beltour, Sindbad, Canadaxperience.com, Parcours Canada, Groupe Voyages Quebec, Flight Network, Voyages Transat, Canada One Travel, Momondo, TravelMix, TravelGurus, Priority Pass, Sabre, HLT Advisory, TravelBrands, Park'n Fly, Tti travel.\*IMMIGRATION, REFUGEES AND CITIZENSHIP CANADA (IRCC)\*: Communications, Admissibility Branch, Integrity Risk Management, Passport, Communications - Social media.\*INNOVATION, SCIENCE AND ECONOMIC DEVELOPMENT CANADA(ISED)\*: Tourism Industry Association of Canada, Hotel Association of Canada, Restaurants Canada, Indigenous Tourism Association of Canada, Tourism HR Canada, Provincial and territorial tourism counterparts, ISED Strategic Communications and Marketing Sector.\*NATURAL RESOURCES CANADA (NRCAN)\*: The Mining Association of Canada, The Prospectors and Developers Association of Canada, The Mining Industry Human Resources Council, The Canadian Institute for Mining, Metallurgy and Petroleum, The Canadian Association of Mining Equipment and Services, The Coal Association of Canada, The Canadian Fertilizer Institute, Canada Mining Innovation Council, Ontario Mining Association, Ontario Prospectors Association, The Mining Association of British Columbia, Association of Mineral Exploration of British Columbia, Association minière du Québec, Saskatchewan Mining Association, Saskatchewan Potash Producers Association, Newfoundland and Labrador Chamber of Mineral Resources, The Alberta Chamber of Resources, The Mining Association of Manitoba, Yukon Chamber of Mines, The NWT & Nunavut Chamber of Mines, Canadian Diamond Drilling Association, Geological Association of Canada (GAC), Mining Industry Human Resources Council (MiHR), Saskatchewan Industry and Resources.\*PUBLIC HEALTH AGENCY OF CANADA (PHAC)\*: Travel Health Clinics.\*TRANSPORT CANADA (TC)\*: Aviation Industry Portal Amplification, Canadian Airports (Class 1, 2, 3), NAV Canada, Labour Associations (CUPE, ALPA, United Steelworkers), Nationals and Regional Industry Associations (ATAC, CAC, NATA, NACC), Aerospace Manufacturers, Air Cargo Secure Supply chain, Railway Association of Canada, Canadian National Railway, Canadian Pacific Railway, VIA Rail, Western Canada Shortlines Railway Association, Teamsters Canada Rail Conference, Canadian Trucking Alliance, Private Motor Truck Council, Private Motor Truck Council, Global Automakers Canada, Canadian Vehicle Manufacturers Association, Teamsters Canada (truck union representatives), Chamber of Marine Commerce, St. Lawrence Seaway Management Corp, Pilotage Authorities (Atlantic, Laurentian, Great Lakes, Pacific), Canadian Marine Pilots Association, International Shipowners Alliance, Cruise Lines International Association, Canadian Ferry Association, Armateurs Sept-Îles and Armateurs Saint Laurent, Shipping Federation of Canada, BC Chamber of Shipping, Council of Marine Carriers, Association of Canadian Port Authorities, Passenger Commercial Vessel Association, Canadian Passenger Vessel Association, Société de développement économique du Saint-Laurent (Sodes), Great Lakes Cruising BC Maritime Employers Association, Canadian Maritime Law Association, Halifax Employers Association, Port of Saint John Employers Association, Association des employeurs maritimes, BC Marine Terminal Operators Association, ILWU (National President and Local 400), CUPE 375 (Longshore Montreal), Canadian Merchant Service Guild, Seafarers International Union, BC Ferry and Marine Workers Union, International Transport Workers Federation (ITF), National Air Council of Canada (NACC), Northern Air Transport Association (NATA), Canadian Airports Council (CAC), Air Line Pilots Association, Canada (ALPA), Air Canada Pilots' Association (ACPA), Air Transport Association of Canada

(ATAC), Private Motor Truck Council of Canada, Canadian Trucking Alliance, Canadian Vehicle Manufacturing Association, Global Automakers Canada.\*TREASURY BOARD OF CANADA SECRETARIAT (TBS)\*: Office of the Chief Information Officer (OCIO).

**Do you have documented processes in place to test datasets against biases and other unexpected outcomes? This could include experience in applying frameworks, methods, guidelines or other assessment tools.**

No [ Points: +0 ]

**Is this information publicly available?**

No [ Points: +0 ]

**Have you developed a process to document how data quality issues were resolved during the design process?**

No [ Points: +0 ]

**Is this information publicly available?**

No [ Points: +0 ]

**Have you undertaken a Gender Based Analysis Plus of the data?**

Yes [ Points: +1 ]

**Is this information publicly available?**

No [ Points: +0 ]

**Have you assigned accountability in your institution for the design, development, maintenance, and improvement of the system?**

Yes [ Points: +2 ]

**Do you have a documented process to manage the risk that outdated or unreliable data is used to make an automated decision?**

No [ Points: +0 ]

**Is this information publicly available?**

No [ Points: +0 ]

**Is the data used for this system posted on the Open Government Portal?**

No [ Points: +0 ]

**Does the audit trail identify the authority or delegated authority identified in legislation?**

No [ Points: +0 ]

**Does the system provide an audit trail that records all the recommendations or decisions made by the system?**

Yes [ Points: +2 ]

**Are all key decision points identifiable in the audit trail?**

Yes [ Points: +2 ]

**Are all key decision points within the automated system's logic linked to the relevant legislation, policy or procedures?**

Yes [ Points: +1 ]

**Do you maintain a current and up to date log detailing all of the changes made to the model and the system?**

Yes

[ Points: +2 ]

**Does the system's audit trail indicate all of the decision points made by the system?**

Yes

[ Points: +1 ]

**Can the audit trail generated by the system be used to help generate a notification of the decision (including a statement of reasons or other notifications) where required?**

Yes

[ Points: +1 ]

**Does the audit trail identify precisely which version of the system was used for each decision it supports?**

Yes

[ Points: +2 ]

**Does the audit trail show who an authorized decision-maker is?**

No

[ Points: +0 ]

**Is the system able to produce reasons for its decisions or recommendations when required?**

Yes

[ Points: +2 ]

**Is there a process in place to grant, monitor, and revoke access permission to the system?**

Yes

[ Points: +1 ]

**Is there a mechanism to capture feedback by users of the system?**

Yes

[ Points: +1 ]

**Is there a recourse process established for clients that wish to challenge the decision?**

Yes

[ Points: +2 ]

**Does the system enable human override of system decisions?**

Yes

[ Points: +2 ]

**Is there a process in place to log the instances when overrides were performed?**

No

[ Points: +0 ]

**Does the system's audit trail include change control processes to record modifications to the system's operation or performance?**

Yes

[ Points: +2 ]

**Have you prepared a concept case to the Government of Canada Enterprise Architecture Review Board?**

No

[ Points: +0 ]

**If your system involves the use of personal information, have you undertaken a Privacy Impact Assessment, or updated an existing one?**

Yes

[ Points: +1 ]

**Have you designed and built security and privacy into your systems from the concept stage of the project?**

Yes

[ Points: +1 ]

**Is the information used within a closed system (i.e. no connections to the Internet, Intranet or**

any other system)?

No

[ Points: +0 ]

**If the sharing of personal information is involved, has an agreement or arrangement with appropriate safeguards been established?**

No

[ Points: +0 ]