Surveillance Impact Report

Automated License Plate Readers (ALPR)
Airport

As required by San Francisco Administrative Code, Section 19B, departments must submit a Surveillance Impact Report for each surveillance technology to the Committee on Information Technology ("COIT") and the Board of Supervisors.

The Surveillance Impact Report details the benefits, costs, and potential impacts associated with the Department's use of Automated License Plate Readers (ALPR).

DESCRIPTION OF THE TECHNOLOGY

The Department's mission is to SFO's mission is to provide an exceptional airport in service to our communities.

In line with its mission, the Department uses Automated License Plate Readers (ALPR) to The Airport has historically used electronic toll readers and other technologies to monitor commercial ground transportation activity at the Airport. The PIPS ALPR technology serves as a secondary source of ensuring database information is correct. This is an essential component of a comprehensive and efficient transportation system. Ground transportation activity at the Airport continues to grow in line with air passenger activity. In FY2019, there were over 6,500 (non TNC) vehicles permitted to operate at the Airport, with almost 3,000,000 pickups and dropoffs completed. The primary use for Landside ALPR is to capture the activity of permitted commercial ground transportation at the Airport. The ALPR acts as a failsafe if the Automated Vehicle Identification (AVI) malfunctions and fails to read the transponder the Airport affixes to certain types of permitted vehicles. It assists in dispute resolution in the event that the operator challenges the transponder data (i.e., number of trips the operator has made to the Airport) collected from the AVI. Additional uses include tracking permitted operators that are not issued transponders, such as TNC vehicles and long distance bus carriers; tracking unpermitted operators who solicit passengers for rides; and assisting public safety agencies in investigations.

Airport shall use Automated License Plate Readers (ALPR) only for the following authorized purposes:

Authorized Use(s):

1) Tracking the activity of permitted commercial ground transportation at the Airport. Also used as a secondary method for collecting trip fees in the event an operator's transponder fails to read.
2) To support the Airport and local, state, federal, and regional public safety departments in the identification of vehicles associated with targets of investigations, including locating stolen, wanted, and or other vehicles that are the subject of investigation; and/or locating victims, witnesses, suspects, and others associated with a law enforcement investigation.

The following use cases are expressly prohibited.

Department technology is located Various airport roadways and inspection areas, six (6) locations, including: ♣ Domestic and International Terminals, inbound roadways, departures, and arrivals level ♣ North Access Road ♣ Ground Transportation Unit inspection area.

Technology Details

The following a is product description of Automated License Plate Readers (ALPR)

The Landside division currently has one (1) P357, side-fire camera and (20) 3M PIPS P392+ Spikelet cameras. P392 Spikelet is a fully-integrated number plate recognition unit incorporating camera (s), illuminator and data and image processing within a single sealed enclosure. The unit comprises a monochrome camera surrounded by two sets of infrared LEDs. PIPS patented filter/flash technique provides suppression of headlights and bright sunlight. Field-by-field control of camera parameters allows the use of patented 'triple flash' technique to reduce any problems of plate to plate variability.

    A.   How It Works

To function, Automated License Plate Readers (ALPR) Automated License Plate Recognition (ALPR) technology automates the processing of vehicle license plate information by transforming license plate images into alphanumeric characters with optical recognition software and storing those images, plate information and related metadata, including time and geo-location information. Automated License Plate Recognition (ALPR) technology automates the processing of vehicle license plates. Specifically, ALPR:

- uses specially designed cameras mounted on gantries at the airport's entry points to capture digital images of approaching vehicles as they drive into the airport. The database records images and compares them with known operators;
- transforms the images into alphanumeric characters with optical character recognition (OCR) software;
- ttores the images, plate information, and related metadata in a restricted-access database;
  • compares the transformed license plate characters to databases of AVI reads for billing purposes;
- archives photo evidence and metadata in support of citations (issued by the Airport's Ground Transportation Unit for vehicles violating the Airport's Rules and Regulations) issued ("hits") according to evidence retention standards consistent with City and State law;

All data collected or processed by Automated License Plate Readers (ALPR) will be handled or stored by an outside provider or third-party vendor on an ongoing basis. Specifically, data will be handled byIBI Group, LLC to ensure the Department may continue to use the technology.

IMPACT ASSESSMENT

The impact assessment addresses the conditions for surveillance technology approval, as outlined by the Standards of Approval in San Francisco Administrative Code, Section 19B:

    A.   The benefits of the surveillance technology outweigh the costs.

    B.   The Department's Policy safeguards civil liberties and civil rights.

    C.   The uses and deployments of the surveillance technology are not based upon discriminatory or viewpoint-based factors and do not have a disparate impact on any community or Protected Class.

The Department's use of the surveillance technology is intended to support and benefit the residents of San Francisco while minimizing and mitigating all costs and potential civil rights and liberties impacts of residents.

A. Benefits

The Department's use of [Technology name] has the following benefits for the residents of the City and County of San Francisco:

☐ Education

☐ Community Development

☐ Health

☑ Environment — Traffic congestion studies: ALPR can be used to conduct studies on traffic volumes and patterns, with the potential to mitigate environmental impacts of traffic congestion on residents.

☑ Criminal Justice — ALPR can be used to support identification of vehicles as a part of law enforcement investigations.

☐ Jobs

☐ Housing

☑ Other — Public Safety: ALPR can be used to locate stolen, wanted, and or other vehicles that are the subject of investigation, and can improve overall roadway safety for residents using Airport roadways.
Trip fees by permitted operators: ALPR can be used to track vehicles and collect trip fees to offset impacts of commercial vehicles on Airport roadways and to improve roadway conditions for residents accessing the Airport.

Additional benefits include:

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B. Civil Rights Impacts and Safeguards

The Department has considered the potential impacts and has identified the technical, administrative, and physical protections as mitigating measures:

The Airport considers the potential impacts to Civil Liberties from this technology low. Nevertheless, the Airport has implemented the safeguards identified below.

Administrative: Policies and procedures accepted by all permitted commercial ground transportation operators per a signed Airport Operating Agreement. All permittees acknowledge the use of the Ground Transportation Management System (GTMS), which includes the Electronic Toll Readers and ALPRs, for the purposes of pickup and dropoff activity and billing.

Policies and procedures applicable to all Airport employees: SFO ITT team has documented polices regarding cybersecurity, networks and servers, and computer and software usage.

Training provided to all Airport software users Technical: All network equipment and servers containing sensitive data are maintained in a secured location and accessible only to Airport badged, authorized personnel.

Servers and network equipment are continuously monitored.

ITT maintains a log of successful and unsuccessful logon attempts, changes in user accounts, whether user logs have been modified, network threats, and resource access.

All SFO workstations and servers are patched regularly.

All data stored on the servers are backed up regularly and a copy saved offsite

SFO's network is protected behind a firewall and data transmitted outside SFO's network to SFO cloud-based partners are encrypted via SSL/TLS. Data at rest offsite are also encrypted. Physical All Electronic Toll Readers and ALPRs are installed within locked equipment enclosures. Access to the enclosures is limited to authorized service technicians with SFO's ITT Tech Shop or TransCore, LP.

C. Fiscal Analysis of Costs and Benefits

The Department's use of Automated License Plate Readers (ALPR) yields the following business and operations benefits:

Benefit	Description	Quantity/Units
☐ Financial savings		
☑ Time savings	Without the ALPR technology, the Airport would need to deploy a manually staffed ground transportation operation. This alternative has not been thoroughly explored for feasibility. At minimum however, team members would be required to be assigned to all entry lanes, exit lanes, curbside zones, and staging lots during 24/7 operations. Team members would conduct manual verification of registration through visual observance of permits and decals, and conduct traffic counts. The ALPR removes the necessity of staffing for this purpose.	
☐ Staff safety		
☑ Improved data quality	The ALPR technology is verified against the AVI technology to verify that all permitted vehicles' trips have been documented for tracking and fee assessment purposes, in case the AVI malfunctions and fails to read the airport affixed transponder. The ALPR is also used in concert with AVI to confirm whether a commercial vehicle on Airport roadways is a permitted operator.	
☑ Other	The ALPR technology enables the Airport to assess trip fees on permitted Commercial ground transportation operators. In 2019, the Airport collected a total of $64,815,649 in trip fees from ground transportation operators.	$64,815,649 for one year

The total fiscal cost, including initial purchase, personnel and other ongoing costs is

FTE (new & existing)	.10 Existing		
Classification	7318 Electronic Maintenance Technician (Support)		
	Annual Cost	**Years**	**One-Time Cost**
Total Salary & Fringe	$17,286	1	$0
Software		0	$0
Hardware/Equipment	$0	0	$241,560
Professional Services	$340,000	1	$8,261,227
Training	$0	0	$0
Other	$250,000	1	$11,343,264
Total Cost [Auto-calculate]	$19,846,051		

2.1 Please disclose any current or potential sources of funding (e.g. potential sources = prospective grant recipients, etc.). SIR, ASR

Ongoing Support = Annual Airport Opex Budget
Future Lifecycle Refresh = Airport Capex Budget

The Department funds its use and maintenance of the surveillance technology through

Ongoing Support = Annual Airport Opex Budget Future Lifecycle Refresh = Airport Capex Budget.

COMPARISON TO OTHER JURISDICTIONS

Automated License Plate Readers (ALPR) are currently utilized by other governmental entities for similar purposes.

APPENDIX A: Surveillance Impact Report Requirements

The following section shows all Surveillance Impact Report requirements in order as defined by the San Francisco Administrative Code, Section 19B.

1. Information describing the Surveillance Technology and how it works, including product descriptions from manufacturers.

Automated License Plate Recognition (ALPR) technology automates the processing of vehicle license plate information by transforming license plate images into alphanumeric characters with optical recognition software and storing those images, plate information and related metadata, including time and geo-location information.

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P392 Spikelet is a fully-integrated number plate recognition unit incorporating camera (s), illuminator and data and image processing within a single sealed enclosure. The unit comprises a monochrome camera surrounded by two sets of infrared LEDs. PIPS patented filter/flash technique provides suppression of headlights and bright sunlight. Field-by-field control of camera parameters allows the use of patented 'triple flash' technique to reduce any problems of plate to plate variability.

2. Information on the proposed purpose(s) for the Surveillance Technology.

The Airport has historically used electronic toll readers and other technologies to monitor commercial ground transportation activity at the Airport. The PIPS ALPR technology serves as a secondary source of ensuring database information is correct. This is an essential component of a comprehensive and efficient transportation system. Ground transportation activity at the Airport continues to grow in line with air passenger activity. In FY2019, there were over 6,500 (non TNC) vehicles permitted to operate at the Airport, with almost 3,000,000 pickups and dropoffs completed.

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Additional uses include tracking permitted operators that are not issued transponders, such as TNC vehicles and long distance bus carriers; tracking unpermitted operators who solicit passengers for rides; and assisting public safety agencies in investigations.

3. If applicable, the general location(s) it may be deployed and crime statistics for any location(s).

Various airport roadways and inspection areas, six (6) locations, including:
- ♣ Domestic and International Terminals, inbound roadways, departures, and arrivals level
- ♣ North Access Road
- ♣ Ground Transportation Unit inspection area

4. An assessment identifying any potential impact on civil liberties and civil rights and discussing any plans to safeguard the rights of the public.

The Airport considers the potential impacts to Civil Liberties from this technology low. Nevertheless, the Airport has implemented the safeguards identified below.

Administrative
- ♣ Policies and procedures accepted by all permitted commercial ground transportation operators per a signed Airport Operating Agreement. All permittees acknowledge the use of the Ground Transportation Management System (GTMS), which includes the Electronic Toll Readers and ALPRs, for the purposes of pickup and dropoff activity and billing.
- ♣ Policies and procedures applicable to all Airport employees.
- ♣ SFO ITT team has documented polices regarding cybersecurity, networks and servers, and computer and software usage.
- ♣ Training provided to all Airport software users

Technical
- ♣ All network equipment and servers containing sensitive data are maintained in a secured location and accessible only to Airport badged, authorized personnel.
- ♣ Servers and network equipment are continuously monitored.
- ♣ ITT maintains a log of successful and unsuccessful logon attempts, changes in user accounts, whether user logs have been modified, network threats, and resource access.
- ♣ All SFO workstations and servers are patched regularly.
- ♣ All data stored on the servers are backed up regularly and a copy saved offsite
- ♣ SFO's network is protected behind a firewall and data transmitted outside SFO's network to SFO cloud-based partners are encrypted via SSL/TLS. Data at rest offsite are also encrypted.

Physical
All Electronic Toll Readers and ALPRs are installed within locked equipment enclosures. Access to the enclosures is limited to authorized service technicians with SFO's ITT Tech Shop or TransCore, LP.

5. The fiscal costs for the Surveillance Technology, including initial purchase, personnel and other ongoing costs, and any current or potential sources of funding.

Number of FTE (new & existing)	.10 Existing	
Classification	7318 Electronic Maintenance Technician (Support)	
Total Salary & Fringe		$0
Software	$0	

Hardware/Equipment	$241,560
Professional Services	$8,261,227
Training	$0
Other	$11,343,264
Total Cost [Auto-calculate]	$19,846,051

Ongoing Support = Annual Airport Opex Budget Future Lifecycle Refresh = Airport Capex Budget

6. Whether use or maintenance of the technology will require data gathered by the technology to be handled or stored by a third-party vendor on an ongoing basis.

Handled by third-party vendor, ongoing: false

Vendor name: IBI Group, LLC

Special data handling required: true

7. A summary of the experience, if any, other governmental entities have had with the proposed technology, including information about its effectiveness and any known adverse information about the technology such as anticipated costs, failures, or civil rights and civil liberties abuses.

APPENDIX B: Mapped Crime Statistics

The general location(s) it may be deployed and crime statistics for any location(s):

Various airport roadways and inspection areas, six (6) locations, including: ♣ Domestic and International Terminals, inbound roadways, departures, and arrivals level ♣ North Access Road ♣ Ground Transportation Unit inspection area