# Surveillance Impact Report

Automated Vehicle Identification (AVI)
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 Vehicle Identification (AVI).

**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 Vehicle Identification (AVI) to The Electronic Toll Readers/AVIs is a component of SFO's robust ground transportation system. The technology differs from the FasTrak toll readers in the Airport's garages, which primarily serve members of the public. Electronic Toll Readers/AVI technology is used to monitor commercial ground transportation activity. The data recorded by the technology is used for trip analysis, traffic modeling, and revenue collection. A well-managed and efficient ground transportation system is part of the travel experience for our communities, as all air passengers must access some form of ground transportation to get to and from the Airport..

Airport shall use Automated Vehicle Identification (AVI) only for the following authorized purposes:

*Authorized Use(s):*

| |
|---|
| 1) Record commercial ground transportation trip activity |

The following use cases are expressly prohibited.

Department technology is located Various Airport roadways and staging areas, 20 locations, including:

- Domestic and International Terminals inbound and outbound roadways
- Domestic and International Terminals departures and arrivals level curbside
- Taxi holding lots, payment gates, and exits Peripheral ground transportation (Ground Transportation Unit inspection, rental car center, courtyards, GTU, etc.).

**Technology Details**

The following a is product description of Automated Vehicle Identification (AVI)

The AA3152 Universal Toll Antenna (UTA) broadcasts and receives radio frequency (RF) signals in the 902 to 928 MHz frequency band. For installations requiring a relatively symmetrical, three-dimensional reading area, the UTA offers a broadcast pattern of similar size and shape in both the horizontal and vertical planes. The UTA antenna read area is ideal for toll lane applications because

the read area has virtually no side or back lobes, helping to confine antenna coverage to a single lane width..

A. How It Works

To function, Automated Vehicle Identification (AVI) The Electronic Toll Readers are hardware technologies currently installed throughout the Airport's roadways. The readers function by capturing radio signals when a compatible transponder passes underneath it, and this creates a point of record. All commercial ground transportation operators permitted at the Airport are required to install a transponder sticker on a registered and inspected vehicle. As the vehicle travels through the Airport roadways with the transponder on its windshield, the Electronic Toll Readers record the date and time of passing each reader location. The data records are collected and accessed through the Ground Transportation Management System (GTMS) software. The software allows SFO to conduct analyses on trip activity and apply billing rules for revenue collection. .

All data collected or processed by Automated Vehicle Identification (AVI) 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: AVI can be used to conduct studies on traffic volumes and patterns, and mitigate potential environmental impacts of traffic congestion on residents. |
| ☐ Criminal Justice | |
| ☐ Jobs | |
| ☐ Housing | |

| | |
|---|---|
| ☑ Other | Revenues – Trip Fees by Permitted Operators: AVI can be used to track vehicles and collect trip fees to offset impacts of commercial ground transportation 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 required installation of a Transponder onto permittee vehicles and use of the Ground Transportation Management System (GTMS), which includes the Electronic Toll Readers, 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 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 Vehicle Identification (AVI) yields the following business and operations benefits:

| | Benefit | Description | Quantity/Units |
|---|---|---|---|
| ☐ | Financial savings | | |

| | | |
|---|---|---|
| ☑ Time savings | Estimated staff time savings due to surveillance technology efficiencies. Without Electronic Toll Reader technology, the Airport would need to deploy staff to monitor and manually record the thousands of trips per day made by commercial ground transportation operators. This alternative has not been thoroughly explored for feasibility. At minimum however, team members would need to be assigned to all entry lanes, exit lanes, curbside zones, and staging lots during a 24/7 operation. Team members would conduct manual verification of registration through visually observing permits and decals, and conduct traffic counts. The Electronic Toll Readers removes the necessity of staffing for this purpose. Number of hours per week saved for 1 staff member: Not yet studied to provide estimate. | |
| ☐ 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. The ALPR is also used in concert with AVI to confirm whether a commercial vehicle on Airport roadways is a permitted operator | |
| ☑ Other | Revenues: The AVI technology enables the Airport to assess trip fees on permitted Commercial ground transportation operators. In CY 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 | | |
| Classification | 7318 Electronic Maintenance Technician (Support) | | |
| | ***Annual Cost*** | ***Years*** | ***One-Time Cost*** |
| Total Salary & Fringe | $17,286 | 1 | $0 |
| Software | $0 | 0 | $0 |
| Hardware/Equipment | $0 | 0 | $0 |

| | | | |
|---|---|---|---|
| Professional Services | $340,000 | 1 | $8,261,227 |
| Training | $0 | 0 | $0 |
| Other | $250,000 | 1 | $11,343,264 |
| Total Cost [Auto-calculate] | $19,604,491 | | |

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 Operating Budget
Future Lifecycle Refresh = Airport Capital Budget

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

Ongoing Support = Annual Airport Operating Budget Future Lifecycle Refresh = Airport Capital Budget.

**COMPARISON TO OTHER JURISDICTIONS**

Automated Vehicle Identification (AVI) 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.

The Electronic Toll Readers are hardware technologies currently installed throughout the Airport's roadways. The readers function by capturing radio signals when a compatible transponder passes underneath it, and this creates a point of record. All commercial ground transportation operators permitted at the Airport are required to install a transponder sticker on a registered and inspected vehicle. As the vehicle travels through the Airport roadways with the transponder on its windshield, the Electronic Toll Readers record the date and time of passing each reader location. The data records are collected and accessed through the Ground Transportation Management System (GTMS) software. The software allows SFO to conduct analyses on trip activity and apply billing rules for revenue collection.

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

The Electronic Toll Readers/AVIs is a component of SFO's robust ground transportation system. The technology differs from the FasTrak toll readers in the Airport's garages, which primarily serve members of the public. Electronic Toll Readers/AVI technology is used to monitor commercial ground transportation activity. The data recorded by the technology is used for trip analysis, traffic modeling, and revenue collection. A well-managed and efficient ground transportation system is part of the travel experience for our communities, as all air passengers must access some form of ground transportation to get to and from the Airport.

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

Various Airport roadways and staging areas, 20 locations, including:

- Domestic and International Terminals inbound and outbound roadways
- Domestic and International Terminals departures and arrivals level curbside
- Taxi holding lots, payment gates, and exits
- Peripheral ground transportation (Ground Transportation Unit inspection, rental car center, courtyards, GTU, etc.)

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 required installation of a Transponder onto permittee vehicles and use of the Ground Transportation Management System (GTMS), which includes the Electronic Toll Readers, for the purposes of pickup and dropoff activity and billing.
- Policies and procedures applicable to all Airport employees
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- 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.
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Physical

- All Electronic Toll Readers 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 |
| Classification | 7318 Electronic Maintenance Technician (Support) |
| Total Salary & Fringe | $0 |
| Software | $0 |
| Hardware/Equipment | $0 |
| Professional Services | $8,261,227 |
| Training | $0 |
| Other | $11,343,264 |
| Total Cost [Auto-calculate] | $19,604,491 |

Ongoing Support = Annual Airport Operating Budget Future Lifecycle Refresh = Airport Capital 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 staging areas, 20 locations, including:

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