Surveillance Technology Usage Review: Parking Enforcement ALPR Systems (2021 and 2022)

As Required by Seattle Municipal Code 14.18.060

Foreword from the Inspector General

The following is OIG's first Surveillance Usage Review of Parking Enforcement ALPR Systems used by the Seattle Police Department (SPD). This review was performed pursuant to Seattle Municipal Code 14.18.060, which requires OIG to conduct annual reviews of SPD's use of Surveillance Technologies.
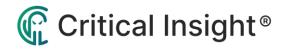
OIG contracted with a cybersecurity firm, Critical Insight, to conduct this review. OIG also facilitated stakeholder feedback from SPD and the American Civil Liberties Union. We appreciate the time and effort these stakeholders devoted to this review. These consultations and perspectives helped to ensure the work was thorough and inclusive, and that our conclusions and recommendations were based on the most complete information available.

CITY OF SEATTLE
SURVEILLANCE TECHNOLOGY REVIEW
PARKING ENFORCEMENT ALPR SYSTEMS

Notice

Critical Insight has made every reasonable attempt to ensure that the information contained within this statement of work is correct, current and properly sets forth the requirements as have been determined to date. The parties acknowledge and agree that the other party assumes no responsibility for errors that may be contained in or for misinterpretations that readers may infer from this document.

Trademark Notice

Table of Contents

Executive Summary

This Executive Summary highlights major findings and recommendations pertaining to the six elements of SMC 14.18.060, which OIG is required to review. The summary below lists significant audit results associated with SMC 14.18.060.

14.18.060 Provision	Compliance Determination	Auditor's Findings	Recommendations
A. How surveillance technology has been used, usage frequency, and whether usage patterns have changed.	Needs Work ⚠️	SPD policy does not reflect current integration of Parking Enforcement into SPD operations	**Recommendation 1** SPD should update Policy 16.170 to reflect the current integration of Parking Enforcement into SPD operations.
B. How often surveillance technology or its data is shared with other entities, including government agencies.	Yes ✅	No records of data sharing for the period of review.	
C. How well data management protocols are safeguarding individual (personal) information.	Needs Work ⚠️	SIR does not reflect that ALPR data are currently stored in a cloud service. Another vendor who has access to the ALPR data did not provide privacy and security policies related to the management of relevant data.	**Recommendation 2** SPD should update the SIR to reflect the hosting services currently in use for the Parking Enforcement ALPR system. **Recommendation 3** SPD should ensure that Seattle ITD completes steps necessary to fully integrate Genetec Patroller with Azure Single Sign-On

14.18.060 Provision	Compliance Determination	Auditor's Findings	Recommendations
D. How deployment of surveillance technologies impacted or could impact civil liberties or have disproportionate effects on disadvantaged populations, and how those impacts are being mitigated.	Needs Work ⚠️	No records are currently maintained to reflect where Parking Enforcement ALPR vehicles have been deployed.	**Recommendation 4** SPD should develop a log or report that provides data on Parking Enforcement ALPR-equipped vehicles' geographic deployments over time.
E. A summary of any complaints or concerns about the surveillance technology and results of internal audits or assessments of code compliance.	Yes ✅	No complaints or concerns noted in 2021 or 2022	
F. Total annual costs for use of surveillance technology, including personnel and other ongoing costs.	Yes ✅	Maintenance and licensing costs for 2021-2022 were $28,300.	

Technology Description

The Automated License Plate Reader (ALPR) surveillance technology is a high-definition, infrared digital camera system installed in eight Parking Enforcement vehicles. Parking Enforcement uses their ALPR systems to identify parking and scofflaw violations. SPD Policy 16.170 and Seattle Municipal Code (11.35.010) define 'scofflaw violations' as cases of "four or more parking citations issued against a vehicle for each of which a person has failed to respond, failed to appear at a requested hearing, or failed to pay amounts due for at least 45 days from the date of the filing of each of those citations." Vehicles that meet the criteria for scofflaw violations are added to the City's scofflaw list and the registered owner of the vehicle is notified of such by mail. In some cases where a vehicle on the City's scofflaw list is located by Parking Enforcement officers (PEOs), the vehicle may be immobilized or impounded after its delinquent fine status is verified. Parking Enforcement ALPR systems consist of four main components.

1. Genetec's AutoVu ALPR hardware is the ALPR system installed in Parking Enforcement vehicles. This system includes a camera, on-board computer, and cellular modem for two-way communication with the Genetec Patroller back-end server.

2. Genetec's Patroller software is the interface and back-end server where license plate checks are performed, retention periods are set, user permissions are managed, user activity is tracked and logged, and camera "read" and "hit" logs can be accessed. Genetec Patroller is a cloud service operated by Genetec, a widely-used vendor of surveillance and security solutions.

3. Samsung tablet devices allow Parking Enforcement officers to access the software required to write tickets and enter ticket information.

4. Gtechna Police E-Citation software, which prints citations for vehicles found in violation of scofflaw, overtime zone parking, and metered parking.

Parking Enforcement's ALPR systems require all four of these components to function. The Surveillance Impact Report (SIR) for this technology and SPD Policy 16.170 state this hardware can only be used for the purpose of parking enforcement when used in combination with the Patroller software, Samsung tablets, and Gtechna Police E-Citation software.

Purpose and Objectives

This analysis was conducted by Critical Insight consultants at the request of the Seattle Office of the Inspector General for Public Safety pursuant to City Ordinance 125376, Chapter 14.18.060. Per the Ordinance, this review must include, but is not limited to, the following:

A. How surveillance technology has been used, how frequently, and whether usage patterns are changing over time;
B. How often surveillance technology or its data are being shared with other entities, including other governments;
C. How well data management protocols are safeguarding individual information;
D. How deployment of surveillance technologies impacted or could impact civil liberties or have disproportionate effects on disadvantaged populations, and how those impacts are being mitigated.
E. A summary of any complaints or concerns received by or known by departments about their surveillance technology and results of any internal audits or other assessments of code compliance; and
F. Total annual costs for use of surveillance technology, including personnel and other ongoing costs.

In this review, consultants reviewed the information disclosed in the SIR, and conducted an assessment of SPD procedures related to this technology.

This report will highlight risks ascertained by Critical Insight consultants using the criteria listed below and give recommendations to remedy associated risks.

- Is the description of the technology in the SIR complete and accurate?
- Is there a clear usage and data management policy or policies in place?
- Does it describe how and when the surveillance technology will be deployed, and by whom?
- How and where will data gathered by this surveillance technology be stored?
- How long will the data be retained?
    - What process is used to destroy data that are no longer being retained?
- How is access to the data secured?
    - How is unauthorized access prevented?
    - What access reviews are being performed?
- How are data shared outside of the department, and how is sharing or access to those data monitored and audited?
- Are there any auditability concerns about the technology, its cost and its usage in general?

Limitations on Data

Data Retention

"Hits" refer to reads of license plates that are associated with a scofflaw or parking violation or are wanted in connection with a felony crime. Hits are retained for 90 days. As such, all data within the scope of this review had already been purged at the time this review began. Accordingly, this report will not include statistics on use, frequency, or patterns; OIG is working with Parking Enforcement management to ensure necessary data is collected for the upcoming 2023 review period.
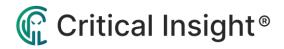
Departmental Moves

Parking Enforcement was moved from SPD to Seattle Department of Transportation (SDOT) in 2021 and subsequently returned to SPD in 2023. SDOT did not produce a new SIR with updated policies and procedures during that time. Consequently, the 2018 Parking Enforcement ALPR SIR generated by SPD remains in effect. Given shifts in governance over Parking Enforcement and lack of relevant data, this review will focus on SPD policies and data collection going forward, rather than assessing SDOT policies and practices for the review period.

A. Surveillance Technology Usage

Purpose of Use

Parking Enforcement had eight ALPR-equipped vehicles during this review period (2021 through 2022). Per Parking Enforcement management, PEOs focused deployments in downtown, residential parking zones (RPZs), and time-limited no-pay parking areas. Parking Enforcement ALPR vehicles have defined functions. Three vehicles are used to identifying violators of the City's scofflaw ordinance. The other five vehicles are used for general parking enforcement, focused on RPZs, metered zones, and time zone enforcement. The SIR describes the activities of these five vehicles as:

> *In Time-Limited, no pay parking areas, the ALPR systems in the five sedans digitally "chalk" parked vehicles using GPS location and stem-valve comparison technology. The system alerts on those vehicles that are in violation of the time zone restriction upon a second pass. In RPZs, ALPR can be used to determine whether a vehicle is permitted to park in the RPZ based on the Seattle Department of Transportation-issued list of vehicles currently permitted to park in the RPZ.*

Each day the ALPR systems automatically download six files. Three of those files contain lists related to scofflaw violations. Another file contains a list of all license plate numbers and vehicles with a valid RPZ permit, identifying which RPZ the permit covers. Another file, known as the "hotsheet," contains license plate numbers and vehicles in various law enforcement databases: the Washington Crime Information Center (WACIC), the FBI's National Crime Information Center (NCIC), and SPD's list of license plates and vehicles related to active investigations or protective orders. The hotsheet is updated every twelve hours and is identical to the hotsheet used by SPD ALPR-equipped patrol cars.[1] The last file lists the license plate numbers of shuttles, buses, and other transit vehicles. In the past, Parking Enforcement used this file to minimize the number of overall hits recorded in their ALPR system. During the 2021 through 2022 review period, they did not use it.

Verification of Hit Accuracy

Whenever a PEO encounters a positive hit on the Scofflaw list or hotsheet, a second PEO arrives on scene to verify the accuracy of the hit. In the case where a vehicle is subject to immobilization (i.e., booting), PEOs confirm not only the accuracy of the hit but also confirm whether Parking Enforcement has recorded any payment of fines. In the case of a positive hit on a hotsheet item, the PEO contacts the Community Safety Communications Center (CSCC) dispatch. The CSCC dispatcher collects any observations and necessary information from the PEO. If the CSCC dispatcher confirms that police presence is necessary, they dispatch SPD to the scene. For any other parking violations, PEOs use a handheld device to perform a secondary check. Though this procedure conforms to SPD Policy *'16.170-2-POL General Policy 4 ALPR Operators Will Respond to Hits/Alerts by Confirming the ALPR Information',* lack of data for the review period prevented independent verification of compliance. OIG is working with Parking Enforcement management to collect necessary data for future reporting.

Policy Guidance

SPD policy 16.170 controls the use of ALPR departmentwide. While this policy reflects existing processes and features for SPD patrol units, other sections have become outdated as they relate to Parking Enforcement. These outdated sections appear to be the result of interdepartmental shifts and updates to the cyber infrastructure supporting Parking Enforcement ALPRs. This review found that the following sections have fallen out of date for Parking Enforcement ALPRs:

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[1] The ALPR systems SPD uses are analyzed in a separate Annual Usage Review.

- 16.170-POL-1 Definitions
- 16.170-POL-2 General Policy 2
- 16.170-POL-2 General Policy 3
- 16.170-POL-3 ALPR Equipment 5
- 16.170-POL-5 Data Storage and Retention 1
- 16.170-POL-5 Data Storage and Retention 3

Recommendation 1: SPD should update Policy 16.170 to reflect the current integration of Parking Enforcement ALPR into SPD operations.

B. Data Sharing with External Partners and Other Entities

As stated in the SIR, Parking Enforcement data collected by ALPRs can be shared according to public disclosure law or as necessary for investigations and prosecutions. SPD may share data with the following entities:

- Seattle City Attorney's Office

- King County Prosecuting Attorney's Office

- King County Department of Public Defense

- Private Defense Attorneys

- Seattle Municipal Court

- King County Superior Court

- Similar entities where prosecution is in Federal or other State jurisdictions

- Other law enforcement agencies

- Insurance companies

- Members of the public pursuant to the Washington Public Records Act, Chapter 42.56 RCW

SDOT reported that they received no requests for sharing data collected by Parking Enforcement ALPRs during the 2021 through 2022 review period.

C. Data Management and Safeguarding of Individual Information

Outdated Information in the SIR

The current SIR on the City website is out-of-date, insofar as it lists the Neology BOSS back-end server software as still used for Parking Enforcement ALPR data. This ceased to be the case in 2021 when back-end operations were migrated to the Genetec Patroller cloud service. Section 5.1 of the Parking Enforcement ALPR SIR reads as follows:

> *"All data collected for Parking Enforcement systems are hosted on City SPD servers and are not accessible by vendors without knowledge and/or permission of City personnel."*[2]

ALPR data is now stored in a cloud service operated by Genetec and hosted on the Microsoft Azure cloud, so Parking Enforcement ALPR data is no longer stored on City servers. Genetec is currently responsible for adding and removing users to the City's version of Patroller service, not Seattle ITD.

- **Recommendation 2**: SPD should update the SIR to accurately reflect the status of hosting services for the Parking Enforcement ALPR systems.
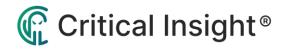
Data Retention

The ALPR system stores license plate reads, the date, time and location of the read, and the name and badge number of the officer performing the read. Personal identifiable information (PII) such as vehicle owner name, address, and phone number are not stored.[3]

Hits on license plates based on scofflaw or stolen vehicle hotlists are retained for 90 days, while all other reads are deleted at the end of each shift. OIG observed that data retention schedules were consistent with the SIR at the time of this review.

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[2] The 2018 SIR on Parking Enforcement ALPRs can be accessed here:
https://www.seattle.gov/documents/Departments/Tech/Privacy/SPD%20Parking%20Enforcement%20-%20Final%20SIR.pdf
[3] If a citation is issued, the license plate and vehicle owner information is recorded in the City's e-citation system.

Vendor Privacy and Security

Currently, three vendors have access to Parking Enforcement ALPR data: Genetec, Gtechna and Route1. Genetec is the vendor for in-car ALPR cameras and the software that performs license plate checks, while Gtechna supports the creation and printing of parking enforcement citations. Route1 acts as the vendor/reseller for Genetec hardware and software, and Route1 administers the Genetec software on SPD's behalf. This entails responding to requests for data on system reads and hits and provisioning access to Genetec Patroller for new vehicles.

Route1 does not currently have a privacy policy for systems they administer on behalf of their clients. When requested, Route1 did not provide their own privacy and security policies for management of the Genetec Patroller cloud service and instead referred to Genetec's policies. This means there is no written contract that explicitly forbids Route1 from sharing or selling Parking Enforcement ALPR data with third parties for advertising or marketing purposes. While an apparent lack of privacy and security policies on Route1's part is concerning, SPD reported that Seattle ITD is currently in the process of integrating the Genetec Patroller cloud service with the City's existing Azure Active Directory Single Sign-On service. Once complete, this would remove Route1's access to Parking Enforcement ALPR data.

Recommendation 3: SPD should ensure that Seattle ITD completes steps necessary to fully integrate Genetec Patroller with Azure Single Sign-On.

We reviewed the privacy and security policies provided by Genetec and Gtechna and found that neither Genetec nor Gtechna share or re-sell data uploaded to their services. All information uploaded to these services remains the sole property of the City.

Authentication and Authorization

At present, access to the Genetec Patroller back-end system requires a username and password, as well as an multi-factor authentication (MFA) token that is sent to the user's e-mail or texted to a registered phone. Parking Enforcement does not have administrative control over user access and must contact Genetec to add or remove users. This is not ideal from a security perspective, because without administrative control, the City cannot use its normal threat-hunting procedures to look for signs of account compromise.

As already noted, Parking Enforcement and Seattle ITD are in the process of remediating this risk by migrating the sign-in process for Genetec Patroller to Active

Directory Single Sign-On, which will give Seattle ITD administrative control over user access and allow Seattle ITD to employ a role-based authentication scheme.

D. Impact on Civil Liberties and Disproportionate Effects on Disadvantaged Populations

Community concerns related to the use of ALPR systems include the creation of a database of license plate information that would allow tracking of movements over time, and disproportionate deployment of the technology into low-income communities and communities of color.

As noted in Section A of this report, Parking Enforcement vehicle deployment is focused in downtown, residential parking zones (RPZs), and time-limited no-pay parking areas. According to Parking Enforcement management, PEOs can exercise discretion in where they will deploy within the city and there is no apparent strategy or oversight of deployments. SPD does not currently maintain records of Parking Enforcement deployment locations, and consequently neither SPD nor this review are able to understand what disproportionalities may exist with the deployment of this technology.

Recommendation 4: SPD should develop a log or report that provides data on Parking Enforcement ALPR-equipped vehicles' geographic deployments over time.

E. Complaints, Concerns and Other Assessments

Office of Police Accountability (OPA) Complaints

There were no complaints or concerns submitted to OPA regarding Parking Enforcement use of ALPRs.

Customer Service Bureau Complaints

OIG did not find any relevant complaints specifically identifying Parking Enforcement use of ALPRs.

Internal Audits or Assessments

No internal audits or assessments were conducted on this technology in 2021 or 2022.

F. Cost Auditing

In the 2021, maintenance and licensing costs attributed to this technology totaled to $18,510. Records on costs from 2022 could not be located during this review. Because of the high number of PEOs, the interdepartmental transition, and the unknown number of deployments, it was not possible to calculate personnel costs for administration and use of ALPR-equipped PE vehicles.

Seattle Office of Inspector General

Surveillance Technology Usage Review
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Recommendations Response

1. SPD should update Policy 16.170 to reflect the current integration of Parking Enforcement into SPD operations.

   SPD Management Response
   ☒ Concur ☐ Do Not Concur

   Estimated Date of Implementation: 1 March 2024

   Proposed Implementation Plan: Parking Enforcement is in the process of creating a Unit level Policy/Procedure Manual, which will include Parking Enforcement policy/procedure related to ALPR usage and be in compliance with SPD Policy 16.170.

2. SPD should update the SIR to reflect the hosting services currently in use for the Parking Enforcement ALPR system.

   SPD Management Response
   ☒ Concur ☐ Do Not Concur

   Estimated Date of Implementation: 1 March 2024

   Proposed Implementation Plan: Parking Enforcement is working with SPD Performance Analytics & Research staff to update and submit the SIR.

Surveillance Technology Usage Review
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Recommendations Response

3. SPD should ensure that Seattle ITD completes steps necessary to fully integrate Genetec Patroller with Azure Single Sign-On.

   ### SPD Management Response
   ☒ Concur ☐ Do Not Concur

   Estimated Date of Implementation: 1 March 2024

   Proposed Implementation Plan: Parking Enforcement has an active project related to the KIOSK mode for our ALPR tablets a part of this project is the implementation of Single Sign On.

4. SPD should develop a log or report that provides data on Parking Enforcement ALPR-equipped vehicles' geographic deployments over time.

   ### SPD Management Response
   ☒ Concur ☐ Do Not Concur

   Estimated Date of Implementation: 1 March 2024

   Proposed Implementation Plan: Initial conversations with SPD Data Analytics and have reached out to vendor to meet so the tech team can discuss a model of integration where we can take and save locational data, but no protected data. Finished product will at a minimum be able to identify quadrants of the city patrolled on a defined timeline.

Non-Audit Statement
This review was not conducted under Generally Accepted Government Auditing Standards (GAGAS); however, OIG has followed GAGAS standards regarding the sufficiency and appropriateness of evidence.