Seattle Office of
Inspector General

Automatic License Plate Readers (ALPR) Patrol Report 2024

As Required by Seattle Municipal Code 14.18.060

September 30, 2025

Acknowledgement

We would like to thank the leaders and staff of the Seattle Police Department (SPD) Parking Enforcement (PE) unit. PE personnel made themselves available to answer questions and efficiently responded to document requests during this review. Thank you to each Parking Enforcement Officer who provided the Seattle Office of Inspector General (OIG) key insight into their operations. The unit's desire to improve its practices and provide transparency throughout the oversight process is notable and appreciated.

Recommendation Progress

OIG made four recommendations in its last review of PE Automatic License Plate Readers (ALPR). At the time of this review, Parking Enforcement has implemented 2 of the 4 of these recommendations.

	Recommendation	Status
1	SPD should update Policy 16.170 to reflect the current integration of Parking Enforcement ALPR into SPD operations.	Implemented
2	SPD should update the Surveillance Impact Report to accurately reflect the status of hosting services for the Parking Enforcement ALPR systems.	Not Implemented
3	SPD should ensure that Seattle Information Technology Department completes steps necessary to fully integrate Genetec Patroller with Azure Single Sign-On.	Implemented
4	SPD should develop a log or report that provides data on Parking Enforcement ALPR-equipped vehicles' geographic deployments over time.	Not Implemented

Technology Description

ALPRs are high-definition, infrared digital camera systems that detect and read characters from license plates. PE ALPRs are primarily used to identify parking violations throughout the city.

The mounted cameras on Parking Enforcement Vehicles (PEVs) scans strings of letters and numbers on license plates as they come into view – known as reads. Each read includes the license plate image, computer-interpreted read of the license plate number, date, time, and GPS location. In addition to this data, the ALPR on PEVs takes a burst of 26 pictures of each parked vehicle. Parking Enforcement Officers (PEOs) use these photos as a visual comparison to determine parking violations. After reading a license plate, the ALPR system alerts the PEO of a potential violation—referred to as unverified hits. Not all hits are true matches. In some cases, the ALPR system may misread a digit (e.g., mistaking a "1" for an "I" or an "8" for a "B"). PEOs must verify each hit before taking any enforcement action.

Records of reads and hits are the data retained by SPD. These data are subject to retention periods described in SPD Policy 16.170. ALPR data do not contain personally identifiable information, but the information collected by ALPR, in conjunction with other information, could be used to personally identify individuals' vehicles.

Parking Enforcement personnel reported that—as of January 2025— PE had 15 ALPR-equipped vehicles, and 12 ALPR-trained PEOs. PE ALPR systems consist of four main components:

1. **Genetec AutoVu ALPR hardware** includes a camera, on-board computer, and cellular modem for two-way communication with the Genetec Patroller backend server.

2. **Genetec 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. **Panasonic Tablet device** allows PEOs to access the software required to write tickets and enter ticket information.

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

SMC 14.18.060, § A: How surveillance technology has been used, how frequently, and whether usage patterns are changing over time.

During the previous review of this technology, SPD did not maintain records of PE deployment locations, which limited OIG's ability to track the technology's use patterns overtime. Since the previous review, PE developed a system to share data related to PE action with OIG for oversight purposes.

OIG was able to determine the types of parking violations identified by ALPR and their locations by reviewing PE ALPR hits data. These data demonstrate where PEOs identify parking violations but do not provide information on how many times an ALPR vehicle was deployed to a certain location. Given this limitation, OIG also interviewed all 12 ALPR-trained PEOs to understand how they use the technology throughout the city.

How PE Uses ALPRs

Parking Enforcement primarily uses ALPRs to identify time restricted parking violations, permit restricted parking violations, and Scofflaw Violations. PE ALPRs can also be used to identify vehicles on a "hot list." The hot list includes license plate information of vehicles related to criminal investigations. In addition to the use described above, at the time of this review, Parking Enforcement personnel reported that one ALPR equipped vehicle used by a member of the Abandoned Vehicles Squad. While this PEO can use ALPR to identify violations related to abandoned vehicles, the PEO reported that the technology is rarely used for this type of enforcement. The processes for conducting enforcement using ALPRs are described below.

For _time restricted parking_, PEOs use ALPR reads to "digitally chalk" or "e-chalk" vehicles. PEOs who use ALPRs scan an area and select a time requirement in the ALPR system based on the streets parking regulations. After the selected amount of time has passed, a PEO scans the same street of vehicles again. If there are cars that appear to have not moved in accordance with the PEO's original selected time regulation, the system will identify a potential violation. For time restricted parking, officers must conduct two levels of verification to ensure that the system has correctly identified a violation. First, PEOs must verify that the ALPR is not misreading the license plate. Second, the PEO must review before and after photos captured by the system to ensure that the system correctly identified that a vehicle did not move. Typically, PEOs verify whether a vehicle has moved by comparing the position of tire valve stems or logos.

To identify _permit restricted parking and hot sheet violations_, ALPR reads are compared to an external data list. For permit restrictions, ALPRs compare reads to an SDOT list of license plates associated with a residential parking permit. For Scofflaw Violations and hotlist vehicles, ALPRs compare reads to a list of eligible license plates identified by the Seattle Municipal Court and from crime information centers. In both types of enforcement, PEOs must verify that the ALPR has not misread the licenses plate. Whenever a PEO encounters a potential hit for a vehicle on the hotlist, they contact the Community Assisted Response & Engagement (CARE) Department dispatch. The CARE dispatcher collects any observations and necessary information from the PEO. PEOs do not respond to hotlist hits outside of conducting parking enforcement.

Factors that Determine ALPR Deployment

PE is not able to conduct the same level of enforcement in all areas of the city due to limited staffing and the size of the zones they must cover. These logistical limitations require PE to prioritize ALPR deployments into specific areas of the city based on the area's enforcement need. PE reports that supervisors assign ALPR operators to areas of the city based on the area's need for parking turnover, staffing limitations, and community complaints.

Similar to the previous review of this technology, OIG found that PEOs exercise discretion in their assigned zones. When operating in their assigned area of the city, PEOs use their professional knowledge of the location to prioritize areas of their zones that commonly need the most enforcement; these areas include time-restricted parking and areas where there are frequent community complaints. For example, one PEO explained they often focus their enforcement at a high school in their zone because they know from community complaints that there is a high need for turnover during school pick-up and drop-off times. Some PEOs prioritize conducting enforcement in areas that PE is understaffed. For example, an officer who works in Ballard explained that during a week they knew the Fremont area was short-staffed, they conducted enforcement in Fremont after conducting enforcement in Ballard.

PEOs describe using their discretion to deploy ALPR based on relevant operational concerns. ALPR operators' statements imply that they use their discretion to address under-staffing and prioritize areas of the city where ALPR is most useful for conducting enforcement.

PE Uses ALPR Primarily for Identifying Parking Violations

As stated in the technology description, when an ALPR registers a potential hit on a plate, the PEO must verify that the technology read the plate accurately. After verifying the hit, the officer either accepts an accurate hit or rejects the hit. An officer may reject a hit if the ALPR misread the license plate, the license plate was already processed, the ALPR duplicated a plate number, a vehicle has a disabled placard, or a temporary permit exemption from specific parking regulations.

A PEO can also accept a hit which indicates that the license plate scanned by the ALPR: (1) matched a hot sheet record; (2) the vehicle was parked in a timed spot for longer than allowed resulting in an "overtime hit"; or (3) the vehicle was parked in a residential parking zone (RPZ) without a valid RPZ permit. Of all hits in 2024, 66% were accepted, and the remaining hits were rejected. Misreads was the second most frequent outcome for hits, comprising about 25% of all hits.

Figure 1. demonstrates the percentage of accepted hits by violation type. The vast majority (92%) of all ALPR use by PE can be attributed to monitoring overtime parking, restricted parking zones, and identifying scofflaw violations. Only 8% of all accepted hits are vehicles that are related to a criminal incident on the hotlist. In the event that PEOs encounter vehicles on the hotlist, PE personnel reported that they notify dispatch of the location of the vehicle. These figures illustrate that PE uses ALPRs primarily for parking enforcement related action, which is consistent with the SIR's description of the technology's use.
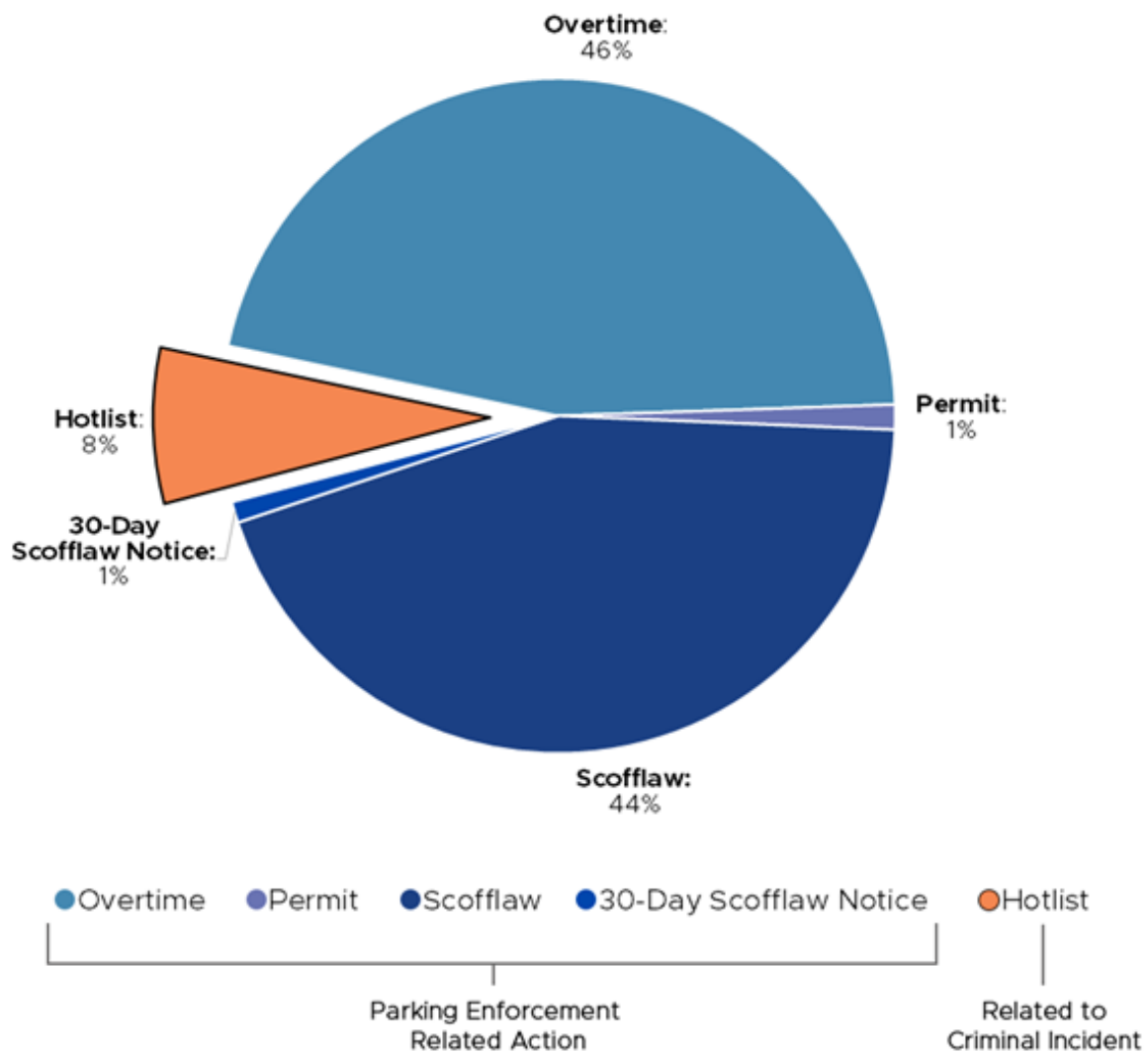
Figure 1: Accepted Hits by Violation Type

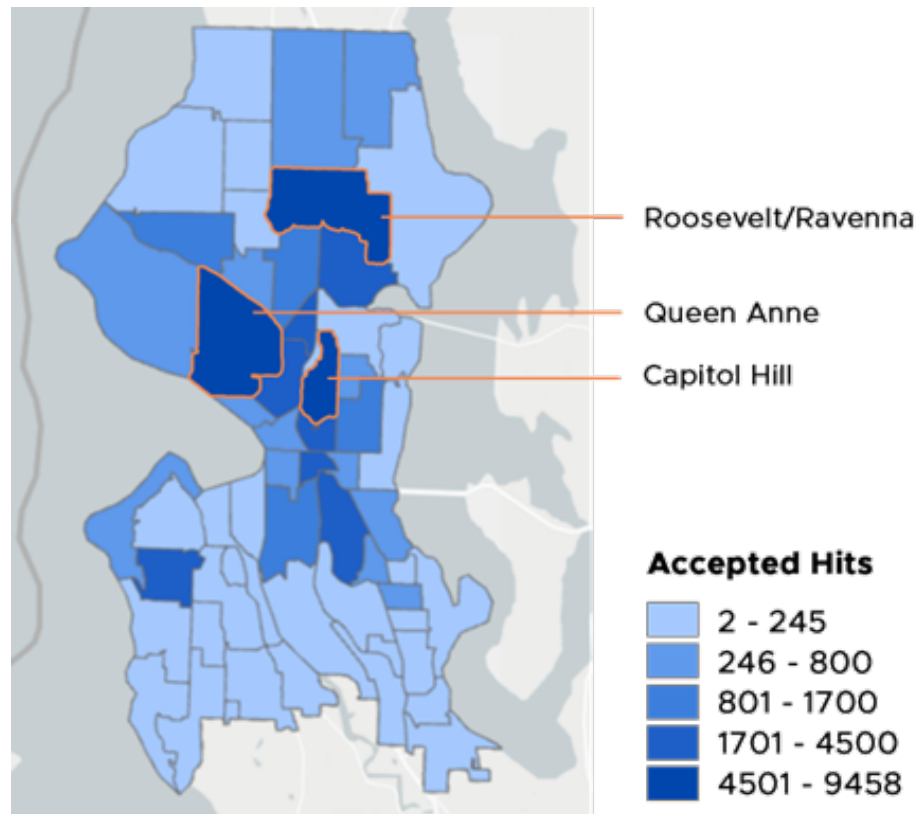## A Few Neighborhoods Account for a Large Portion of Hits

Figure 2: Accepted Hits by Seattle Neighborhood

Of the 58 Seattle neighborhoods, five neighborhoods make up about 51% of all accepted hits. Three neighborhoods alone, Capitol Hill, Queen Anne, and Roosevelt, account for about 37% of all accepted hits. Capitol Hill has the most accepted hits out of all neighborhoods, totaling 9,458 hits in 2024. An increased number of ALPR hits in these areas aligns with PE personnel's statements that ALPR is more commonly used in denser areas and areas with a high need for parking turnover.

Limitations in Assessing ALPR Distribution

OIG was unable verify whether the high distribution of accepted hits in Capitol Hill and Queen Anne is the result of increased deployments of ALPR in these areas or simply represent more frequent occurrences of parking violations.
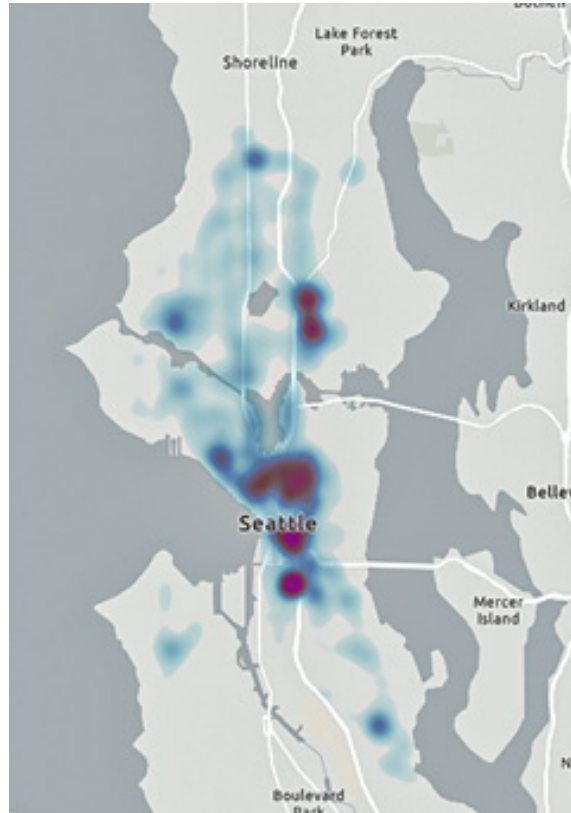
Figure 3: ALPR Reads- Generated by SPD

OIG previously recommended that SPD develop a log or report to provide data on PE ALPR deployments. PE took steps to implement this recommendation by generating an interactive heat map of ALPR reads throughout the year (See Figure 3). The heat map allows users to filter by month to view ALPR reads overtime, which allows for a visual comparison of PE ALPR use throughout the city. While this map may provide high-level insight to monitor where ALPR-equipped PEV are scanning, OIG found that the heat map did not provide sufficient evidence to contextualize the focused distribution of hits in Figure 2. Absent the ability to review data of ALPR deployments over time, OIG is limited in assessing if the technology is used in a manner that impacts civil liberties or disadvantaged populations.

OIG recognizes the progress made to monitor distribution and will continue to work with the SPD on methods for developing data for more direct comparison across time and geography.

SECTION B	Data Sharing with External Partners and Other Entities

SMC 14.18.060, § B: How often surveillance technology or its data are being shared with other entities, including other governments in particular.

As stated in the SIR, PE data collected by ALPRs are shared as required by 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

As required by Seattle's Scofflaw Ordinance and Traffic Code, PE shares license plate records of vehicles that are scofflaw eligible with the Seattle Municipal Court. These records do not include the location data captured by ALPR and do not include any personally identifiable information.

In 2024, PE personnel reported that the only entity to request data sharing was OIG for the purposes of conducting oversight. There were no other requests for PE ALPR data. PE personnel reported that they would log all instances of data sharing.

SECTION C	Data Management and Safeguarding of Individual Information

SMC 14.18.060, § C: How well data management protocols are safeguarding individual information.

Data Storage and Retention

PE personnel report that the data collected by PE ALPRs include license plate numbers, read context photos, the date, time and location of the read and the unit   performing the read. Personally identifiable information—such as vehicle owner name, address, and phone number—is not stored. SPD Policy 16.170 states that PE ALPR reads will be deleted after 24 hours, unless related to hits and data for parking enforcement action. SPD policy and the SIR state that hits will be deleted after 90 days unless they are material to a criminal investigation.

PEO's Pansonic Tablet Device

When PEOs use ALPRs during their shift, their reads and hits are stored locally on their handheld tablet. During their shift, PEOs can refer back to previous ALPR data as needed. At the end of every shift, PEOs offload their device, and this process erases all the reads and hits generated from their shift on their handheld device. Read and hit data are then retained on the Genetec Patroller Cloud Service. PEOs do not have access to the ALPR data after it is offloaded from their handheld tablet. This procedure limits PEO access to reads to the 24-hour window required by SPD policy:

16.170-POL-5 ALPR Data Storage and Retention

1. Except for Hits and Data used for a Parking Enforcement Action, No Data Collected by Parking Enforcement ALPR will be Accessed More Than 24 [sic.] After it was Collected

PE personnel reported that reads stored for more than 24 hours are used for enforcing the 72-hour ordinance. Seattle Municipal Code 11.72.440 states that vehicles without valid disability or other exempted license plates cannot park on any street or other municipal property for a period of time longer than seventy-two (72) hours. To enforce this ordinance, some PEOs use a 72-hour digital chalking. Any use of the 72-hour digital chalking undergoes the same process for verification, offloading, and retention as other ALPR e-chalking after the appropriate time has elapsed. It is unclear whether using ALPRs to enforce SMC 11.72.440 is permissible under SPD Policy 16.170 since these reads are stored for at least 72 hours but are potentially related to parking enforcement action.

SMC 14.18.060, § C: How well data management protocols are safeguarding individual information.

Recommendation 1: Update Policy 16.170

SPD should update Policy 16.170 by clearly defining "parking enforcement action" and document the retention time period for these data.

Genetec Patroller's Cloud Service

All reads and hits are stored on the Genetec Server. Genetec retention settings retain read data for 24-hours and hits for 90-days. There are only six PE personnel who have access to ALPR records once they are stored by Genetec. All authorized users must use single sign on to access hits data. PE reports that it is rare that any authorized user accesses hits once they are stored with Genetec.

Parking Enforcement Scofflaw Email List

To enforce scofflaw violations, the Booting Team typically relies on referrals of potential violations from other PEOs. As a part of this referral process, PE created an email list to track referrals to the Booting Team. The Booting Team receives two types of referral lists through their email. One list is from PEOs who do not use ALPR, and the second list is generated by ALPR operators. The ALPR referral emails include all the data collected by an ALPR when there is a potential violation.

PE report that this email inbox is set to a 90-day retention period and access to this mailbox is restricted to the Booting Team, the Booting Team supervisors, one manager, and an administrator.

Outdated Surveillance Impact Report

PE's practices outlined above align with SPD policy, but there are discrepancies between current use of the ALPR and the most recent Surveillance Impact Report. The following sections of SIR no longer reflect PE's ALPR use:

- *SIR Section 1.1* states that Parking Enforcement uses Samsung Tablets. As stated in the Technology Section of this report, Parking Enforcement uses Panasonic Tablets.

- *SIR Section 1.1* states that Parking Enforcement have eight ALPR equipped vehicles. As stated in the Technology Section of this report, Parking Enforcement has now expanded their use of ALPR to 15 vehicles.

SECTION C	**Data Management and Safeguarding of Individual Information**

SMC 14.18.060, § C: How well data management protocols are safeguarding individual information.

- *SIR Section 2.3* states the Parking Enforcement data is stored with Patrol ALPR data in the Neology Back Office System Software (BOSS). As noted in Section C of this report and OIG's previous review of this technology, Parking Enforcement stores their data on a third-party server through Genetec. Additionally, since Patrol has acquired new ALPR technology in 2024, Parking Enforcement and Patrol ALPR data are no longer stored in the same place.

Recommendation 2: Update the SIR

SPD should update the SIR to accurately reflect Parking Enforcement's current ALPR use. These updates include, but are not limited to, revising PE hosting services, the number of ALPR equipped vehicles, and the type of tablets used for citations.

Vendor Privacy

Three vendors are involved in PE ALPR use: Genetec, Route1, and Gtechna. Two vendors have access to PE ALPR data: Genetec and Route1. Genetec is the vendor for in-car ALPR cameras and the software that performs license plate checks. Route1 acts as the vendor/reseller for Genetec hardware and software. Route1 responds to PE inquiries related to the Genetec software such as requests for hit or read data. Gtechna does not have access to ALPR data. To generate citations, PEOs manually enter parking citation information into the Gtechna software after verifying hits.

The City's contract with Genetec grants the City of Seattle with full rights to all data generated by ALPRs and any subcontract such as Route1. Additionally, the City's contract requires Genetec to notify SPD immediately before responding to any requests from an employee or agent of any federal immigration agency including the Immigration and Customs Enforcement (ICE), the U.S. Department of Homeland Security (DHS), Homeland Security Investigations (HSI), Enforcement Removal Operations (ERO), Customs and Border Protection (CBP), and U.S. Citizenship and Information Services (USCIS). As stated in Section B, PE reported that there have been no instances of data sharing requests in 2024.

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

SMC 14.18.060, § D: How deployment of surveillance technologies impacted or could impact civil liberties or have disproportionate effects on disadvantaged populations (…).

Vendor Privacy

People living in vehicles are a population that could potentially be disproportionately impacted by PE's use of ALPR, however PEOs reported that they primarily use ALPR on streets where people are required to pay or present a permit for parking – PEOs report that people living in their vehicles tend to comply with parking regulations or do not often park in areas with paid or permitted parking.

PEOs who report interacting with people experiencing homelessness state that ALPRs are not always useful, so they do not often use them to conduct enforcement. In these situations, PEOs report using other methods of encouraging compliance, such as verbal engagement to explain violations or offering resource guides developed by PE with the Unified Care Team.

SECTION E	Complaints, Concerns and Other Assessments

SMC 14.18.060, § 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.

Customer Service Board Comments

In 2024, there were multiple Customer Service Board (CSB) complaints involving Parking Enforcement, but none of these complaints are relevant to Parking Enforcement's use of ALPR.

Office of Police Accountability Complaints

In 2024, there were multiple Office of Police Accountability (OPA) complaints involving parking enforcement, but none of these complaints are relevant to Parking Enforcement's use of ALPR.

Internal Audits/Assessments

No internal audits or assessments of this surveillance technology were conducted in 2024.

SECTION F — Total Annual Costs

SMC 14.18.060, § F: How surveillance technology has been used, how frequently, and whether usage patterns are changing over time.

In 2024, maintenance and licensing costs attributed to this technology totaled to $80,445.33. PE acquired spare ALPR parts in the event the system is damaged, which contributed to $12,545.77 of the total costs. Personnel costs are not included in the total cost calculations since PEOs conduct other forms of enforcement that do not include ALPR.

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.

SPD Management Recommendations Response

1. SPD should update Policy 16.170 by clearly defining "parking enforcement action" and document the retention time period for these data.

SPD Management Response

■ Concur (in part)   ☐ Do Not Concur

Estimated Date of Implementation: 11/15/2025

Proposed Implementation Plan: SPD agrees that 16.170 should state the retention period for data related to parking enforcement action, which will be 90 days or will track with the retention for the action (case) itself. However, SPD believes that 16.170 POL-4, which allows "chalking" to enforce parking time periods is unambiguously enforcement action and that no definition change is needed.

2. SPD should update the SIR to accurately reflect Parking Enforcement's current ALPR use. These updates include, but are not limited to, revising PE hosting services, the number of ALPR equipped vehicles, and the type of tablets used for citations.

SPD Management Response

■ Concur   ☐ Do Not Concur

Estimated Date of Implementation: 11/15/2025

Proposed Implementation Plan: SPD's understanding is that the requested clarification will not require a material change and can be completed with notice to City Council and City Clerk updating the SIR.