

Surveillance Usage Review: Seattle Fire Department Hazardous Materials and Emergency Scene Cameras

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Seattle Office of City Auditor

Surveillance Usage Review: Seattle Fire Department Hazardous Materials and Emergency Scene Cameras

Report Highlights

Background

The Seattle Fire Department (SFD) has two categories of cameras: 1) hazardous materials cameras and 2) emergency scene cameras. SFD's Hazardous Materials team uses cameras to detect and identify hazardous materials from a safe distance. SFD's emergency scene cameras usage vary and are distributed among three units: Seattle Medic One, the Safety Unit, and the Fire Investigation Unit. Seattle Medic One uses cameras to document the mechanism of injury of trauma patients. The Safety Unit uses cameras to take photos of safety incidents, such as a traffic collision involving SFD vehicles. The Fire Investigation Unit uses their cameras to take photos at fire scenes.

What We Found

We found that SFD's practices generally comply with the terms of Seattle Municipal Code 14.18.060. However, we found that SFD does not have written policies describing the allowable uses of their cameras, including how photos can be shared and how camera data should be protected and retained. The Hazardous Materials Cameras and Emergency Scene Cameras SIRs also contain outdated technology information and understated cost information.

Recommendations

We recommend that SFD create an acceptable use policy for their hazardous materials and emergency scene cameras and develop a process for tracking camera use. We also recommend that SFD update the SIRs to include information about their current camera inventory and the associated costs.

Department Response

In their written response to our report, SFD stated that they concurred with the report's six recommendations (see Appendix A).



WHY WE DID THIS AUDIT

Seattle Municipal Code (SMC) 14.18.060 requires the City Auditor to annually review City Council approved surveillance technologies used by City of Seattle departments. We reviewed the 2021 usage of the Seattle Fire Department's (SFD) hazardous materials and emergency scene cameras for compliance with SMC 14.18 and with the Surveillance Impact Reports.

HOW WE DID THIS AUDIT

To accomplish the audit's objectives, we:

- Reviewed SFD's camera use for compliance with SMC 14.18
- Reviewed the Hazardous Materials Cameras Surveillance Impact Report and the Emergency Scene Cameras Surveillance Impact Report
- Interviewed SFD officials
- Participated in site visits at SFD locations to verify the camera inventory
- Reviewed customer inquiry data

Seattle Office of City Auditor





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EXECUTIVE SUMMARY

We reviewed the 2021 usage of the Seattle Fire Department’s (SFD) hazardous materials and emergency scene cameras for compliance with Seattle Municipal Code (SMC) 14.18 and with the Surveillance Impact Reports (SIR) for both camera types. Below is a summary of the results of our work.

14.18.060 Provision	Compliance Determination	Auditor’s Assessment	Recommendations
<p>A. How the surveillance technology has been used, how frequently, and whether usage patterns are changing over time</p>	<p>Yes, however needs work.</p> 	<p>The Hazardous Materials Cameras and Emergency Scene Cameras SIRs contain outdated camera technology information.</p> <p>SFD does not have a written policy describing the allowable uses of their cameras, or a process for tracking camera use.</p>	<p>SFD should revise the SIRs to include the current camera technologies they use (Recommendation 1 and Recommendation 3).</p> <p>SFD should create an acceptable use policy that includes the items in SMC 14.18.040 B3 (Recommendation 2 and Recommendation 4).</p>
<p>B. How often the surveillance technology or its data are being shared with other entities, including other governments in particular.</p>	<p>Yes, however needs work.</p> 	<p>SFD does not have a written policy describing when and how employees can share photos.</p>	<p><i>Addressed in Recommendation 2 and Recommendation 4.</i></p>
<p>C. How well data management protocols are safeguarding individual information.</p>	<p>Yes, however needs work.</p> 	<p>SFD does not have written policies describing the data management protocols of their hazardous materials and emergency scene cameras.</p>	<p><i>Addressed in Recommendation 2 and Recommendation 4.</i></p>
<p>D. How deployment of the surveillance technology impacted or could impact civil liberties or have disproportionate effects on disadvantaged populations, and how those impacts are being mitigated.</p>	<p>Yes.</p> 	<p>We did not identify impacts to civil liberties caused by SFD’s camera use.</p>	<p>None.</p>

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14.18.060 Provision	Compliance Determination	Auditor's Assessment	Recommendations
<p>E. A summary of any complaints or concerns received by or known by departments about the surveillance technology and the results of any internal audits or other assessments of code compliance.</p>	<p>Yes.</p> 	<p>We found no complaints or concerns related to SFD's hazardous materials or emergency scene cameras.</p>	<p>None.</p>
<p>F. Total annual costs for use of the surveillance technology, including personnel and other ongoing costs.</p>	<p>Yes, however needs work.</p> 	<p>The Hazardous Materials Cameras and Emergency Scene Cameras SIRs contain outdated and understated cost information.</p>	<p>SFD should revise the SIRs to include the total cost information of their full and current camera inventory, including any related camera equipment (Recommendation 5 and Recommendation 6).</p>

INTRODUCTION

Audit Overview

Seattle Municipal Code (SMC) 14.18.060 requires the City Auditor to annually review the surveillance technologies used by all City of Seattle (City) departments, except for those used by the Seattle Police Department. SMC 14.18 resulted from concerns about privacy, the lack of a process for the City's acquisition of surveillance technologies, and the risks that such technologies could pose to civil liberties related to privacy, freedom of speech or association, or have a disparate impact on specific groups through over-surveillance.

This audit is a review of the Seattle Fire Department's (SFD) use of hazardous materials and emergency scene cameras in 2021. Our objectives were to report on:

- A. How the surveillance technology has been used, how frequently, and whether usage patterns are changing over time.
- B. How often the surveillance technology or its data are being shared with other entities, including other governments in particular.
- C. How well data management protocols are safeguarding individual information.
- D. How deployment of the surveillance technology 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 the surveillance technology and the results of any internal audits or other assessments of code compliance.
- F. Total annual costs for use of the surveillance technology, including personnel and other ongoing costs.

SFD concurred with the report's findings and recommendations (see Appendix A).

Background

[Seattle Municipal Code 14.18](#) requires City departments to obtain City Council approval of their surveillance technologies acquisition through a Surveillance Impact Report (SIR). The City Council approved SFD's [hazardous materials cameras SIR](#) and [emergency scene cameras SIR](#) through [Ordinance 126442](#).

A. USE AND TRENDS

Hazardous Materials Cameras

The Seattle Fire Department's (SFD) hazardous materials cameras consist of four iPads, one iPhone, and two GoPro cameras. SFD's Hazardous Materials (HazMat) team use these cameras to detect and identify hazardous materials from a safe distance. For example, the HazMat team takes photos of scenes where there are many potentially hazardous items that need to be inspected and researched, such as during a home lab investigation. The HazMat Captain told us that employees use the cameras about once a month, and that camera usage in 2021 was about the same as previous years.

For the iPads and iPhone, the HazMat team at the scene uses the Apple Facetime app to stream live video to a television monitor on the HazMat unit truck. This allows other HazMat team employees to provide real-time support to the first responders at the scene. The HazMat team can take screenshots during the iPad or iPhone livestream and save the photos to review later. The GoPro cameras are used to take still images.

The Hazardous Materials Cameras Surveillance Impact Report (SIR) describes the technology and use of iPads but does not include information about the GoPro cameras or iPhone. Seattle Municipal Code 14.18.020 requires that City departments obtain Council ordinance approval for surveillance technologies. SFD officials told us that SFD's approved SIRs were written beginning in 2017, and the department acquired the new cameras since then. SFD should update the SIR to reflect the camera technology the HazMat team currently uses.

Recommendation 1

The Seattle Fire Department should revise the Hazardous Materials Cameras Surveillance Impact Report to include the GoPro cameras, iPhone, and any other camera technologies used by the Hazardous Materials team.

SFD does not have a written policy describing the allowable uses of their hazardous materials cameras. Seattle Municipal Code 14.18.040 requires departments to have a use policy for their surveillance technologies. SFD should create such a policy, and determine how best to track camera use, to assist with future surveillance technology usage reviews.

Recommendation 2

The Seattle Fire Department should create an acceptable use policy for hazardous materials cameras. The policy should include the items in Seattle Municipal Code 14.18.040 B3. The Seattle Fire Department should also create a process for tracking annual camera use.

Emergency Scene Cameras

SFD's emergency scene cameras consist of different camera models distributed among three units: Seattle Medic One, the Safety Unit, and the Fire Investigation Unit.

Seattle Medic One

The SIR states that the Medic One team uses digital cameras; however, SFD officials told us they have discontinued their use. The medics instead use department issued iPhones when they need to take photos. The four Medic Safety Officers and the Medic One Deputy Chief use their iPhone cameras to document the mechanism of injury for trauma patients to provide to medical professionals. SFD told us that in practice photos are rarely taken because medics are focused on quickly transporting the patient to the hospital and do not have time to take photos. SFD's Policies and Operating Guidelines includes an allowable use policy for Medic One cameras.

Safety Unit

The Safety Unit has three Nikon digital cameras. One camera is used for taking daytime photos (Nikon Coolpix L24), one is used for taking nighttime photos (Nikon D7200), and one is a back-up nighttime camera (Nikon D7200). The four Safety Chiefs use their Nikon cameras to take photos of safety incidents and use them internally for investigations and inclusion in safety reports. A safety incident is an event that poses safety hazards to SFD personnel, such as a fire or traffic collision involving SFD vehicles. A Safety Unit official told us that camera use has increased recently because there are more fire incidents, particularly encampment fires.

Fire Investigation Unit (FIU)

The FIU has two Nikon cameras (D7200 and D5100), and three back-up Nikon cameras (D90, D40, D5200). Fire Investigators and the FIU Captain use the cameras to take photos at fire scenes to document the severity of the fire and any evidence that may be present. Photos are used for investigation and inclusion in internal reports, such as the FIU morning report. FIU employees told us that camera use has increased recently because there are more fire incidents, particularly encampment fires and fires at abandoned houses.

The Emergency Scene Cameras SIR describes camera technology that SFD no longer uses. The Medic One team told us they now use

department issued iPhones instead of the Nikon cameras listed in the SIR. SFD should update the SIR to reflect the camera technology the Medic One team currently uses.

Recommendation 3

The Seattle Fire Department should revise the Emergency Scene Cameras Surveillance Impact Report to include iPhones and any other camera technologies used by the Seattle Medic One team.

SFD does not have a written policy describing the allowable uses of their emergency scene cameras. SFD should create such a policy, and determine how best to track camera use, to assist with future surveillance technology usage reviews.

Recommendation 4

The Seattle Fire Department should create an acceptable use policy for their emergency scene cameras. The policy should include the items in Seattle Municipal Code 14.18.040 B3. The Seattle Fire Department should also create a process for tracking annual camera use.

B. DATA SHARING

Hazardous Materials Cameras

The HazMat team occasionally shares photos of hazardous materials with local law enforcement to investigate criminal activity. The HazMat Captain told us that the HazMat team shares photos, about once a quarter, to the Seattle Police Department's (SPD) Arson and Bomb Squad, SPD's Narcotics Unit, and the Seattle office of the Federal Bureau of Investigation (FBI).

SFD does not have a written policy describing when and how HazMat team employees can share photos. Seattle Municipal Code 14.18.040 requires departments to have a use policy for their surveillance technologies and have procedures documenting their data sharing practices. We recommend that SFD create such a policy in Recommendation 2.

Emergency Scene Cameras

SFD employees occasionally share emergency scene photos with other City departments and medical professionals.

Medic One

Medic One employees can share photos of trauma victims with the medical professionals treating the individual. This policy is documented in SFD's Policy and Operating Guidelines. However, SFD officials told us that in practice this rarely occurs because medics do not have time to take photos.

Safety Unit

Safety Unit employees told us they share photos with the Department of Facilities and Administrative Services for incidents related to claims for damages against the City.

Fire Investigation Unit (FIU)

FIU employees share fire related photos with SPD's Arson and Bomb Squad if criminal activity is involved.

SFD does not have a written policy describing when and how employees can share emergency scene photos. We recommend that SFD create such a policy in Recommendation 4.

C. DATA MANAGEMENT PROTOCOLS

Hazardous Materials and Emergency Scene Cameras

SFD is practicing appropriate data management protocols for their hazardous materials and emergency scene cameras. We observed that SFD stores their cameras in a locked area only accessible to SFD employees. SFD officials told us they perform regular inventories of their camera equipment. Employees save photos on a shared drive with unit-specific access or to a Criminal Justice Information Systems compliant database.

SFD does not have written policies describing the data management protocols of their hazardous materials and emergency scene cameras. Seattle Municipal Code 14.18.040 requires departments to have a data management policy for their surveillance technologies. We recommend that SFD create such a policy in Recommendation 2 and Recommendation 4.

D. IMPACTS ON CIVIL LIBERTIES

Hazardous Materials and Emergency Scene Cameras

We did not identify impacts to civil liberties caused by SFD's camera use. In our review of 2021 Department of Facilities and Administrative Services Customer Service Bureau complaints and concerns, we found none related to SFD cameras affecting the civil liberties of the public (see Section E. Complaints, Concerns, Other Assessments). SFD noted in their Surveillance Impact Reports that cameras used during medical emergencies present a risk of capturing some personally identifiable information, which may affect the civil liberties of those individuals. SFD officials told us they mitigate this risk by avoiding taking photos of the public, keeping the cameras in a secure location, and limiting access to the shared drive where photos are stored. These mitigations help reduce the likelihood of negative impacts to the civil liberties of Seattle residents. We recommend that SFD document their use and data management practices in Recommendation 2 and Recommendation 4.

E. COMPLAINTS, CONCERNS, AND OTHER ASSESSMENTS

Hazardous Materials and Emergency Scene Cameras

We found no complaints or concerns related to SFD’s hazardous materials or emergency scene cameras. We reviewed the City of Seattle Department of Facilities and Administrative Services [Customer Service Bureau](#) database of comments and complaints received in 2021 and found none related to SFD’s cameras. We also reviewed SFD complaints for any concerns regarding camera use, and there were none. The Surveillance Impact Reports include comments received from public information sessions and include concerns related to SFD camera use, specifically about data storage, retention, and sharing. These issues are addressed in our report findings and recommendations. We could locate no assessments related to SFD’s cameras.

F. TOTAL ANNUAL COSTS

Hazardous Materials and Emergency Scene Cameras

The Surveillance Impact Reports for SFD’s cameras contain outdated cost information. SFD officials told us they have updated their camera technologies since the creation and approval of the SIRs. We gathered the cost information available to us and summarized it in Exhibit 1. Seattle Municipal Code 14.18.040 requires departments to describe the fiscal impact of their surveillance technologies. SFD should update the Hazardous Materials Cameras SIR and Emergency Scene Cameras SIR with updated cost information.

Exhibit 1: The Seattle Fire Department’s Surveillance Impact Reports Contain Outdated Costs

Unit	Technology	Cost per Item	Total Cost	Issue
Hazardous Materials Unit	iPads and portable routers (2 qty)	<i>not listed in SIR</i>	\$2,297	The SIR does not include the cost of two additional iPads. The SIR does not include the cost of their GoPro cameras or iPhone.
Fire Investigation Unit	Nikon D7200 (5 qty – <i>not listed in SIR</i>)	\$1,349.99	\$6,749.95 (<i>not listed in SIR</i>)	The SIR does not include the number of cameras or total cost, making the costs appear understated.
Medic One	Nikon Coolpix L24 (1 qty)	\$211.11	\$211.11	Medic One retired this camera and now uses an iPhone. The SIR does not include the cost of their iPhone.
Safety Unit	Nikon Coolpix L24 (1 qty)	\$211.11	\$211.11	None.
Safety Unit	Nikon D7200 (2 qty – <i>not listed in SIR</i>)	\$1,349.99	\$2,699.98 (<i>not listed in SIR</i>)	The SIR does not include the number of cameras or total cost, which understates their costs. The SIR does not include the cost of their iPhone.

Source: Seattle Office of City Auditor analysis of information in the Hazardous Materials Cameras Surveillance Impact Report and the Emergency Scene Cameras Surveillance Impact Report.

Recommendation 5

The Seattle Fire Department should revise the Emergency Scene Cameras Surveillance Impact Report to include the total cost information of their full emergency scene camera inventory, including iPhones, and any related camera equipment.

Recommendation 6

The Seattle Fire Department should revise the Hazardous Materials Cameras Surveillance Impact Report to include the total cost information of their full HazMat camera inventory, including their GoPro cameras and iPhone, and any related camera equipment.

OBJECTIVES, SCOPE, AND METHODOLOGY

Objectives

Our audit objectives were to review the Seattle Fire Department's (SFD) use of hazardous materials and emergency scene cameras, for compliance with Seattle Municipal Code (SMC) 14.18.060:

- A. How the surveillance technology has been used, how frequently, and whether usage patterns are changing over time.
- B. How often the surveillance technology or its data are being shared with other entities, including other governments in particular.
- C. How well data management protocols are safeguarding individual information.
- D. How deployment of the surveillance technology 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 the surveillance technology and the results of any internal audits or other assessments of code compliance.
- F. Total annual costs for use of the surveillance technology, including personnel and other ongoing costs.

Scope

The scope for this audit included activities in 2021. We reported on the items in SMC 14.18.060, by assessing SFD's compliance with SMC 14.18 more broadly.

Methodology

To accomplish the audit's objectives, we:

- Reviewed SFD's camera use for compliance with Seattle Municipal Code 14.18
- Reviewed the Hazardous Materials Cameras Surveillance Impact Report and the Emergency Scene Cameras Surveillance Impact Report
- Interviewed officials from SFD's Public Disclosure Unit, Fire Investigation Unit, Hazardous Materials Unit, Safety Unit, and Seattle Medic One
- Participated in site visits at Seattle Fire Department locations to verify the camera inventory

- Reviewed data from the City of Seattle Department of Facilities and Administrative Services Customer Service Bureau database of comments and complaints received in 2021
- Reviewed SFD complaints received in 2021

We conducted this performance audit in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

APPENDIX A

Response from the Seattle Fire Department

“The Seattle Fire Department appreciates the recommendations provided by the City Auditor with regard to our use of cameras at emergency scenes and at hazardous materials responses. The Department will take concrete steps to address the gaps in our management of camera technologies, particularly when cameras may be used to inadvertently capture an individual’s identity.”

APPENDIX B

List of Recommendations and Department Responses

Recommendation 1: The Seattle Fire Department should revise the Hazardous Materials Cameras Surveillance Impact Report to include the GoPro cameras, iPhone, and any other camera technologies used by the Hazardous Materials team.

SFD Concurrence: Yes

Estimated Date of Completion (Qtr./Yr.): Q4 2022

SFD Response: The Seattle Fire Department will work with Seattle IT to include the use of additional camera technologies in the Surveillance Impact Report.

Recommendation 2: The Seattle Fire Department should create an acceptable use policy for their hazardous materials cameras. The policy should include the items in Seattle Municipal Code 14.18.040 B3. The Seattle Fire Department should also create a process for tracking annual camera use.

SFD Concurrence: Yes

Estimated Date of Completion (Qtr./Yr.): Q2 2023

SFD Response: The Department concurs with this recommendation and will work with stakeholders to adopt a new acceptable use policy for hazardous materials cameras in addition to a usage tracking process.

Recommendation 3: The Seattle Fire Department should revise the Emergency Scene Cameras Surveillance Impact Report to include iPhones and any other camera technologies used by the Seattle Medic One team.

SFD Concurrence: Yes

Estimated Date of Completion (Qtr./Yr.): Q4 2022

SFD Response: The Seattle Fire Department will work with Seattle IT to include the use of additional camera technologies in the Surveillance Impact Report, as well as to acknowledge that Medic One units no longer routinely carry cameras in their drug safes.

Recommendation 4: The Seattle Fire Department should create an acceptable use policy for their emergency scene cameras. The policy should include the items in Seattle Municipal Code 14.18.040 B3. The Seattle Fire Department should also create a process for tracking annual camera use.

SFD Concurrence: Yes

Estimated Date of Completion (Qtr./Yr.): Q2 2023

SFD Response: The Department concurs with this recommendation and will work with stakeholders to adopt a new acceptable use policy for cameras at emergency scenes.

Recommendation 5: The Seattle Fire Department should revise the Emergency Scene Cameras Surveillance Impact Report to include the total cost information of their full emergency scene camera inventory, including iPhones, and any related camera equipment.

SFD Concurrence: Yes

Estimated Date of Completion (Qtr./Yr.): Q2 2023

SFD Response: The Department will work with Seattle IT to revise the SIR to include the total cost once the information has been provided by the Finance and Fire Alarm Center divisions.

Recommendation 6: The Seattle Fire Department should revise the Hazardous Materials Cameras Surveillance Impact Report to include the total cost information of their full HazMat camera inventory, including their GoPro cameras and iPhone, and any related camera equipment.

SFD Concurrence: Yes

Estimated Date of Completion(Qtr./Yr.): Q2 2023

SFD Response: The Department will work with Seattle IT to revise the SIR to include the total cost once the information has been provided by the Finance division and HazMat personnel.

APPENDIX C

Seattle Office of City Auditor Mission, Background, and Quality Assurance

Our Mission:

To help the City of Seattle achieve honest, efficient management and full accountability throughout City government. We serve the public interest by providing the City Council, Mayor and City department heads with accurate information, unbiased analysis, and objective recommendations on how best to use public resources in support of the well-being of Seattle residents.

Background:

Seattle voters established our office by a 1991 amendment to the City Charter. The office is an independent department within the legislative branch of City government. The City Auditor reports to the City Council and has a four-year term to ensure her/his independence in deciding what work the office should perform and reporting the results of this work. The Office of City Auditor conducts performance audits and non-audit projects covering City of Seattle programs, departments, grants, and contracts. The City Auditor's goal is to ensure that the City of Seattle is run as effectively, efficiently, and equitably as possible in compliance with applicable laws and regulations.

How We Ensure Quality:

The office's work is performed in accordance with the Government Auditing Standards issued by the Comptroller General of the United States. These standards provide guidelines for audit planning, fieldwork, quality control systems, staff training, and reporting of results. In addition, the standards require that external auditors periodically review our office's policies, procedures, and activities to ensure that we adhere to these professional standards.

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