REPORT TO THE PUBLIC SAFETY & LIVABLE NEIGHBORHOOD COMMITTEE

REPORT ON INTELLIGENT CITIES STREET LIGHTS

INTRODUCTION

On January 29, 2020, the Public Safety & Livable Neighborhoods Committee will hear a discussion item related to the City’s Smart Streetlight program. The City Attorney’s Office prepared this report to provide additional information for the Committee’s consideration.

On December 13, 2016, following completion of a pilot program Downtown, the City Council unanimously approved a contract with GE Current titled Intelligent Cities Project: GE Intelligent Lighting Master Purchase Agreement (“Agreement”). The Agreement provides for the retrofitting of approximately 8,600 City-owned street lights with energy efficient LED technology, and the installation of GE Intelligent System sensor nodes on approximately 4,200 of the pole mounted lights. This action was preceded by a hearing at the Environment Committee at which the Committee also approved the contract for “energy efficient adaptive controlled LED street lighting with intelligent systems on light poles which will allow for expanded uses of the poles including for purposes of traffic control, parking optimization and public safety.” This technology is commonly referred to as “Smart Streetlights.”

This Report responds to questions raised about the Agreement and its execution. Factual information about the systems is available on the Sustainability Department’s website at https://www.sandiego.gov/sustainability/energy-and-water-efficiency/programs-projects/smart-city.

In addition to publicly available information on the City’s website, this report relies on information provided by mayoral staff and Departmental Instructions applicable to the Sustainability and Police Departments.

1 This Report has been corrected to reflect that the Public Safety & Livable Neighborhoods Committee noticed this as an action item, rather than an informational item as originally indicated.
QUESTIONS AND ANSWERS

Question 1. What types of data do Smart Streetlight sensor nodes produce?

Answer 1. The Agreement separates Smart Streetlight data into two categories:

1. **Source Data.** Source Data is any data that originates on Smart Streetlights. Each Smart Streetlight is equipped with node sensors -- cameras, microphones, and pressure and temperature instruments -- that perceive and record events. The nodes use GE Current technology to translate those perceptions into alpha-numeric code known as Event Data. Both forms of Source Data -- (a) perceptions recorded as audio and video and (b) Event Data -- are owned exclusively by the City.

   Event Data includes no personally identifying information. So while a camera may record an image of a red Subaru, the Event Data reflects only that a vehicle of a certain size drove past the streetlight at a certain time in a certain direction and at a certain speed.

2. **Processed Data.** Processed Data is the proprietary methods and analytical technology that GE Current uses to translate the raw audio and video into coded Event Data. Processed Data is also data derived by GE Current from the Event Data retained by the City, and the proprietary software that performs that work. Processed Data is the data for coding sensor perceptions and also provides analysis of traffic patterns, dangerous conditions, speeding, congestion, sidewalk usage, parking, and other information useful to planners, traffic engineers, and public safety personnel.

   Like the Event Data from which it is derived, Processed Data contains no personally identifying information.

The Agreement treats Source Data and Processed Data differently and specifies that terms applied to one do not apply to the other. Following are discussions of both.

**SOURCE DATA**

Question 2. Who owns the Source Data?

Answer 2. The City owns all right, title, and interest in Source Data.

Question 3. Who in the City can access audio and video recordings?

Answer 3. Audio and video recordings are only available to authorized users for law-enforcement purposes. Access is controlled by SDPD Department Procedure 3.33, which is attached.

Question 4. Can audio and video recordings be accessed by the public or a third party?

Answer 4. No, except by a court order or lawfully executed subpoena.
Question 5. How long is Source Data retained?

Answer 5. The video and audio perceptions captured by sensors are retained on the node for five days before being automatically overwritten. Every five minutes, the nodes translate their audio, visual, and weather perceptions from that period into anonymous, alpha-numeric code (known as Event Data) and communicate to the City Cloud, where the code is retained indefinitely.

Question 6. Can Event Data be accessed by the public or a third party?

Answer 6. Yes. The City has created an open data platform to allow members of the public to access and analyze this anonymous, alpha-numeric code on the City Cloud. The Sustainability Department’s website contains instructions on how to access the Event Data, which is stored on the Cloud indefinitely so application developers can use it.

Question 7. What do the audio and video recordings contain?

Answer 7. This is a camera image taken by a Smart Streetlight on November 6, 2019 of vehicle driven by a suspect who shot three people at the Church’s Chicken restaurant in Otay Mesa. The camera angle is generally consistent with other Smart Streetlights, looking down on streets and sidewalks. The cameras do not read license plates, nor do they have facial recognition capability. They are configured to view only objects in plain and public view. They do not pan, tilt, or zoom. Video is the only Source Data that may possibly contain personally identifying information. Audio recordings can measure sound levels, but do not capture human speech. The decibel readings are translated into Event Data.

Question 8. Are cameras being deployed to target high-crime areas or particular populations?

Answer 8. No. The Department of Sustainability reports that camera locations were selected solely based on their value in planning purposes such as designing safer streets and sidewalks, improving mobility, directing drivers to open parking spaces, and helping first responders during an emergency. Neither the Police Department nor the Fire Department were involved in the selection of locations.
Question 9. What was the City Council told of the photo capabilities or public safety uses of Smart Streetlights when the program was approved on December 13, 2016?

Answer 9. The ordinance approved unanimously by the City Council stated that the Agreement was for “energy efficient advanced controlled street lights and for advanced technologies which will expand the practical uses of the street light pole networks.” The ordinance stated that the Agreement “offers terms for the finance of GE’s energy efficient adaptive controlled LED street lighting with intelligent systems on light poles, which will allow for uses of the poles including for purposes of traffic control, parking optimization, and public safety” (emphasis added).

The Agreement approved unanimously by the City Council describes Source Data as “data that is sensed, observed, or gathered from the individual or collective outputs of the Products” (emphasis added). Exhibit C to the Agreement contains a graphic illustration and explanation of the referenced technology.

The Agreement’s “Schedule of Products and Services with pricing” that describes various Application Programming Interfaces, or APIs, that GE would provide to the City. These APIs are like apps that come pre-installed on a smart phone. The purchaser can use them or not. The “Situational Awareness API,” is described this way: “The Situational Awareness service provides access to media such as photos and video collected from intelligent lighting sensors along public roadways and in parking lots” (emphasis added).

Question 10. When did SDPD begin accessing Smart Streetlight technology?

Answer 10. One year and a half after the Agreement was approved, SDPD met with other City departments to discuss the deployment of Smart Streetlight technology to solve crimes. In August 2018, SDPD requested camera footage related to a homicide at 5th Avenue and Market Street after determining it may have evidence that would help solve the crime. Since then, SDPD have requested streetlight footage in more than 200 investigations.

Question 11. Has Source Data been useful in solving crimes?

Answer 11. Yes. The Police Department reports that Smart Streetlights are a “game changer” in terms of investigating crimes. The above photo of the getaway car in the Church’s Chicken restaurant shooting was circulated to media and law enforcement and led to the arrest of the man charged with murdering Maribel Ibañez.

Police report that Smart Streetlights have assisted police in solving more than 100 crimes. These include:

- The December 28, 2019, murder of Earnest Buchanan, a security guard at an Alpha Project bridge shelter in East Village.
The October 10, 2018, murder of an East Village store owner by robbers wearing disguises. Streetlight video tracked one of the killers for 10 blocks as he walked away from the scene, at which point he removed his mask, allowing for identification.

A November 6, 2018, sexual assault in Downtown. Police were able to use Smart Streetlight video to develop leads on the suspect following the violent assault. That led to his arrest and conviction. He is serving a 10-year sentence.

Of the first 246 cases where SDPD sought video footage, 79 involved traffic incidents such as fatal and serious injury collisions, felony driving under the influence of drugs or alcohol, and felony hit and runs. A large number of these incidents occurred at night without witnesses.

Some examples:

- In a serious injury collision between a motorcycle and vehicle, streetlight footage showed the vehicle driver ran a red light and was at fault. The vehicle driver claimed a San Diego Fire department truck had forced them to run the red light. Streetlight footage debunked this claim.
- After a collision in which a motorist ran a red light, he ran away from the scene and claimed he was a passenger. Streetlight footage showed he was the driver and he was successfully prosecuted.
- A motorist ran a red light, hitting another vehicle and killing the passenger. The motorist at fault blamed the other driver, who lost his wife in the accident. Streetlight footage proved the driver whose wife was killed was not at fault.

Here is a breakdown of the types of crimes for which Smart Streetlights assisted in SDPD investigations:

- Homicide or Attempted Homicide (44)
- Sexual Assault (13)
- Fatal Collision (26)
- In-Custody Death (1)
- Felony Assault with Weapon (33)
- Felony Hit and Run (17)
- Suspicious Death (4)
- Kidnapping (5)
- Serious Injury Collision (36)
- Arson (3)
- Illegal Dumping (1)
- Felony DUI (3)
- Robbery/Burglary (36)
- Security Threat (1)
- Carjacking (2)
- Evading (2)
- Felony Domestic Violence (1)
• Vandalism (11)
• Hate Crimes (3)
• Reported Gun Shots (2)
• Officer-Involved Shootings (2)

Question 12. Does SDPD use the cameras for surveillance purposes, that is, watch camera feeds in real time?

Answer 12. No, its access of camera footage occurs only after a crime has been committed and the footage is believed to be helpful in solving the crime. SDPD Department Procedure 3.33 prohibits discriminatory use of the technology or using it in a manner that is inconsistent with constitutional principles of privacy. As such SDPD does not access video or audio for surveillance purposes and its Department Procedures permits access only for specially authorized personnel in command-approved circumstances for investigations which warrant its use.

Question 13. Can communities request that the retention of Smart Streetlights video be stopped at specific locations?

Answer 13. Yes. On November 26, 2019, the City Attorney sent a memo to the Mayor and City Council (attached) that described two ways in which the City could immediately cease the storage of video on the sensor nodes. The least complicated approach would be to set retention time at zero.

Question 14. Can communities request that Smart Streetlights be installed in specific locations?

Answer 14. No. There is currently no City process for citizens or community groups to request Smart Streetlights. If the City Council elects to continue the program, the City Attorney recommends it create an effective way to survey communities on proposed locations for Safe Streetlights. Perhaps working with community planning groups or other organizations would be a good step forward. Under the Agreement, the City can purchase as many sensor nodes as it wants. The next and final phase of implementation under the Agreement involves 1,000 additional streetlights. The Department of Sustainability already has plans for the locations of those remaining sensors.

PROCESSED DATA

Question 15. What does Processed Data look like?

Answer 15. Here is a picture of alpha-numeric code. Essentially, it is a language consisting of code – long strings of letters and numbers -- that allows communication between Application Program Interfaces.
Question 16. Can personally identifying information be extracted from Processed Data?

Answer 16. No.

Question 17. Who is permitted to create applications from Event Data?

Answer 17. Anyone with the right technological skills can create applications from the anonymous, alphanumeric coded Event Data that is stored on the City Cloud, as the City has created an open data platform to allow members of the public to analyze code. The Sustainability Department’s website contains instructions on how to access the Event Data, which is stored on the Cloud indefinitely. Additionally, GE Current uses its proprietary methods, analytics, and algorithms to create Processed Data under the terms of the Agreement.

Question 18. Who owns the Processed Data?

Answer 18. Its creator. Processed Data created by a member of the public is owned by that individual. Processed Data created by GE Current for the City through GE-created propriety technology is owned by GE Current. Under the Agreement, GE Current also retains the rights to these programs that generate, transform, and expose how the data is aggregated.

Question 19. It has been claimed “data about you and your family have now been collected — and almost certainly sold off — by Wall Street.” Is this true?

Answer 19. No. All personally identifying information (found solely in video) is controlled by the City and is not shared. In addition, GE Current reports that it has not sold any of the anonymous Processed Data it has created for the City. We understand that representatives of GE Current will address this issue at the January 29, 2020, meeting of the Public Safety & Livable Neighborhoods Committee.

Question 20. It has been claimed that the only way for the City to cease the video storage component of the streetlight technology is for the City to pay its way out of the Agreement. Is this true?

Answer 20. No. This claim is incorrect and ignores the plain language in the Agreement. It was refuted in the City Attorney’s November 26, 2019, memorandum to the City Council, which is attached.
CONCLUSION

This Office is available to advise the Mayor and City Council on the City’s legal options moving forward.

MARA W. ELLIOTT, CITY ATTORNEY

By /s/ Mara W. Elliott
Mara W. Elliott
City Attorney

MWE:als
RC-2020-2 (Cor. Copy)
Doc. No. 2301738_2
Attachments: San Diego Police Department Procedures dated 03.12.2019
Memorandum dated 11.26.2019
SAN DIEGO POLICE DEPARTMENT
PROCEDURE

DATE: MARCH 12, 2019
NUMBER: 3.33 – INVESTIGATIONS
SUBJECT: INTELLIGENT STREETLIGHTS
RELATED POLICY: 3.26
ORIGINATING DIVISION: CENTRALIZED INVESTIGATIONS
NEW PROCEDURE: NO
PROCEDURAL CHANGE: NEW PROCEDURE
SUPERSEDES: NEW PROCEDURE

I. PURPOSE

This procedure provides guidance for the proper use of technology embedded within Intelligent Streetlights. It includes direction for accessing and reviewing video acquired from this equipment, as well as the storage and release of the captured images. This procedure does not apply to mobile audio/video systems, covert audio/video systems, or any other image-capturing devices used by the Department.

II. SCOPE

This procedure applies to all members of the Department.

III. DEFINITIONS

Intelligent Streetlights (ISL) – refers to City streetlights that have been enhanced with embedded technology, including CityIQ sensor nodes and cameras, which were deployed as part of the City’s significant efforts to update its infrastructure.

IV. BACKGROUND

A. On December 13, 2016, the City of San Diego approved an agreement with General Electric to upgrade its infrastructure with “Intelligent Streetlights” from GE in approximately 14,000 of its 60,100 streetlights.
B. The City's partnership with GE is expected to significantly reduce its energy consumption by adopting Adaptive Control LED lighting systems, and the data collected from the deployment of over 4,000 Intelligent Streetlights will allow the City to transform this equipment into a “connected digital network to optimize parking and traffic, enhance public safety, and track air quality.”

C. This technology complements the Department’s goal of striving for continuous improvement in efficiency and effectiveness through the successful management of equipment and personnel during critical incidents. Camera footage from Intelligent Streetlights will allow the Department to detect and deter crime, help safeguard against potential threats to the public, manage emergency response situations, and enhance investigations.

D. Video from public areas must be acquired and used in a legal and ethical manner, recognizing constitutional standards of privacy. The Department shall use this technology to safeguard and protect citizens’ constitutional rights, especially those related to freedom of speech. This procedure provides details for addressing these priorities.

E. The use of Intelligent Streetlights provides a unique opportunity to collect evidence of criminal activity in a very proficient manner, but utilization costs associated with technology must be carefully managed to sustain the viability of this technology within the Department. A program manager, determined by the Chief of Police, will ensure evidence requests are appropriate and weighed against costs that may inhibit continued evidence collection from Intelligent Streetlights.

V. PROCEDURES

A. Technology Placement

Intelligent Streetlights were installed in designated locations throughout the City of San Diego as directed by the Environmental Services Department for the mutual benefit of the City and its communities. It was envisioned the strategic placement of this technology would positively impact public safety by improving pedestrian safety, helping first responders during emergencies, and expanding gunshot detection capabilities.

Future expansion of Intelligent Streetlights and their capabilities into areas recommended by the Department should be preceded by community outreach and input into potential locations and their impact.
B. Monitoring

Video from Intelligent Streetlights is recorded on a 24-hour basis. Access to the video may be achieved by Department members utilizing specialized software programs and will be limited to individuals authorized by the Chief of Police who have been trained in the proper operation of the system, legal issues associated with it, and requirements to respect the privacy of members of the public.

1. Authorized users shall not permit any person who is not an authorized user to access information collected by Intelligent Streetlights. Members of the Department, who are not authorized users, who need information from Intelligent Streetlights to enhance criminal investigations, shall submit a written request approved by their Commanding Officer to the program manager for consideration. If the request is approved, the program manager shall obtain and provide the recovered video to the requesting member in accordance with established Department evidence procedures.

While Intelligent Streetlights continuously record video, they do not record audio conversations.

2. The Department does not guarantee recorded footage from this technology, or video from any private sector entities, will be viewed. The Department’s decision to view video footage, regardless of source, is primarily driven by many considerations including: severity of reported crimes, immediacy of threats to public safety, and information needed to position resources and personnel during critical incidents.

If an authorized user has any questions about the propriety or legality of using this technology, they shall review the issue with their supervisor and, if necessary, seek guidance from the program manager and Department’s legal advisor.

C. Video Log

A log, whether completed manually or automated through the use of acquired software, will be maintained by the Department and provided upon public request by the program manager to document when data from Intelligent Streetlights was researched. The logs will, at a minimum, record general information about the incident that was investigated, along with the name of the person that was provided recorded images. A log entry that would reveal an on-going investigation, or jeopardize public safety, would be withheld until this information could be safely released at the direction of the Chief of Police.
D. Prohibited Use

Intelligent Streetlights will not intentionally be used to invade the privacy of individuals or observe areas where a reasonable expectation of privacy exists.

1. They shall also not be used in a discriminatory manner and shall not target protected individual characteristics including, age, skin color, race, ethnicity, national origin, pregnancy, citizenship, immigration status, religion, disability, gender or sexual orientation.

This equipment shall not be used to harass, intimidate, or discriminate against any individual or group.

2. Wherever possible, this technology will identify private property and obscure it from viewing by law enforcement officers, and criminal activity potentially recorded on private property by Intelligent Streetlights will only be viewed with the consent of property owners or by court order in matters involving felony crimes.

VI. INTEGRATION WITH OTHER TECHNOLOGY

A. The Department may elect to integrate Intelligent Streetlights with other technology to enhance available information. Systems such as gunshot detection, incident mapping, crime analysis, and other video-based analytical systems may be considered based upon availability, nature of department strategy and seriousness of the crime investigated.

B. To safeguard privacy, Intelligent Streetlights shall not be equipped with the following technology: Pan-Tilt-Zoom (PTZ) video magnification, facial recognition, and/or automatic license-plate readers (ALPR).

C. The Department will continue to evaluate the availability and appropriateness of collaborating with other public and private sector entities that may share access to recorded video from their camera systems with the Department. When accessing third party or other government agency camera footage, the Department should evaluate whether their use of camera technology, such as pan-tilt-zoom systems and or other analytical tools, requires additional safeguards that meets the Department’s commitment to safeguarding privacy.

D. In the event the Department decides to enter into an agreement or Memorandum of Understanding (MOU) with a private entity or government agency allowing access to video from cameras operated by those parties under terms more restrictive than this procedure, Department members will adhere to the more restrictive agreement.
VII. MEDIA STORAGE AND RETENTION

A. All downloaded media shall be stored in a secure area with access restricted to authorized persons. A recording needed as evidence shall be copied to a suitable medium and booked into evidence in accordance with established Department evidence procedures. All actions taken with respect to retention of media shall be appropriately documented.

B. Intelligent Streetlights allow recorded video to be viewed for up to five (5) days before it is automatically deleted. Video can be viewed beyond this time frame under the following exceptions:

1. If a recording is identified as evidence, the retention will follow the Evidence/Property Files retention schedule.

2. Recordings that become part of a citizen complaint or administrative/internal investigation will follow the retention time identified for the complaint/investigation.

3. Authorized users shall keep all information obtained from Intelligent Streetlights strictly confidential and disclose it only to further law enforcement purposes.

VIII. RELEASE OF VIDEO IMAGES

A. All evidence collected from Intelligent Streetlights is considered an investigative record for the Department and is for official use only.

B. Requests for recorded video images from the public or the media shall be processed in the same manner as requests for Department public records.

C. Requests for recorded images from other law enforcement agencies, (e.g., San Diego County District Attorney's Office), shall be released in accordance with a specific and legitimate law enforcement purpose.

D. Recorded video images that are the subject of a court order or subpoena shall be processed in accordance with the established Department subpoena process.

E. Unless prohibited by applicable law, recorded files may be reviewed in accordance with the following criteria and exceptions:

1. By a Department employee conducting an official investigation.
2. By members of the City Attorney's Office or Risk Management in connection with pending litigation;

3. Pursuant to lawful process or by court personnel otherwise authorized to view evidence in a related case;

4. With approval by the Chief of Police, members reviewing a critical incident, internal affairs investigation, use of force review, or other internal reviews;

5. Internal Affairs shall provide subject employees the opportunity to view recordings relating to an Internal Affairs investigation prior to the administrative interview;

6. The Chief of Police has the discretion to allow viewing or release of recorded files if he/she determines it is in the best interest of the Department. When appropriate, every effort will be made to notify involved employees prior to release;

7. As part of Department approved training;

8. An officer involved in the intentional discharge of a firearm, an incident where any party sustains great bodily injury, or an in custody death shall not review recorded footage from this technology unless approved by the Chief of Police or the Executive Assistant Chief of Police;

9. Subject to the provisions of this policy, the Chief of Police or the Executive Assistant Chief of Police has the discretion to prohibit the review of any recordings by Department employees if it is determined it is in the best interest of the Department or the City of San Diego.

IX. **AUDIT**

A. The Chief of Police, his/her designee, supervisors, or managers may conduct periodic reviews of the Department’s use of Intelligent Streetlight technology. The review may include date of use, summary of the purpose, auditing to ensure adherence to this policy, and any proposed policy changes. The review may also include an analysis of the cost, benefit and effectiveness of the system, including any public safety issues that were effectively addressed or any significant prosecutions that resulted, and any systemic operational or administrative issues that were identified, including those related to training, discipline or policy. Any concerns, recommendations for training or deviations from this policy will be promptly addressed.
X. VIOLATIONS

A. Supervisors shall inspect their personnel's compliance with this procedure for potential violations.

B. Unauthorized access to the system, misuse of the system, unauthorized reproduction of images, or unauthorized distribution of images may result in disciplinary action.

C. Any Department member who has knowledge concerning a violation of this procedure shall immediately report it for further investigation.

XI. TRAINING

A. All personnel designated as system users shall receive appropriate training. Training should include guidance on the use of cameras, interaction with dispatch and patrol operations, along with a review regarding relevant policies and procedures, including this policy. Training should also address state and federal law related to the use of video recording equipment and privacy.
It has come to my attention that each of you received a copy of a letter sent from attorney Cory Briggs, dated November 9, 2019, concerning the City's contract with GE Current for streetlight technology. The City Attorney's Office was not copied. This memorandum does not respond to each of the contentions in Mr. Briggs's letter, but instead addresses its most significant inaccuracy: that the only way to cease the video storage component of the streetlight technology is for the City to pay its way out of the contract. Mr. Briggs's erroneous reading of the contract ignores two options available to the City, each of which can be effected without any of the costs or liabilities he postulates:

1. **Eliminate video storage.** The City could set the retention duration on all the nodes to zero. With retention time at zero, no raw video would be stored on the nodes, and only the coded metadata would be sent to the Cloud for processing by GE Current. The City of Portland, Oregon, for example, uses the same GE Current "Intelligent Cities" hardware and software technology as a civic planning tool only, and does not retain video. The City of San Diego's system is presently set for about 5 days, at which point, the data cards are overwritten. The information collected then becomes unavailable, unless previously requested by authorized users of the San Diego Police Department.*

2. **Cease processing video.** The City could also stop funding the services of Genetec, a third-party provider whose services were part of the original 12-month service package. Genetec is the entity which "pulls" retained video off the nodes upon request of authorized users in the San Diego Police Department. The City's contract with GE Current does

* Facts regarding this technology and its uses have been provided to this Office by staff.
not require the City to retain raw video for a given duration, nor does it require the City to subscribe to a third-party service like Genetec for use of the data for law enforcement purposes.

In sum, the unsolicited commentary that Mr. Briggs sent to the City Council on November 9, 2019 is incorrect and ignores the plain language in the City's contract with GE Current.

You may contact me directly if you have any questions about this contract.

MARA W. ELLIOTT, CITY ATTORNEY

By /s/ Frederick M. Ortlieb
Frederick M. Ortlieb
Deputy City Attorney

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Doc. No.: 2234573