



DATE: November 8, 2021

TO: Council Sustainability Committee

FROM: Director of Maintenance Services

SUBJECT Update on Illegal Dumping & Use of Surveillance Technologies

RECOMMENDATION

That the Council Sustainability Committee (CSC) reviews and comments on this report.

SUMMARY

At the July 12, 2021 CSC meeting, the CSC requested an informational update and presentation on the City's use of surveillance technologies in the City's efforts to decrease illegal dumping. This report will include an analysis of the City's use of surveillance technologies and provide a general overview of the City's overall efforts to decrease illegal dumping. The City of Hayward takes several proactive measures to limit the volume of illegally dumped items throughout the community. The multifaceted approach entails collaboration between several departments including Code Enforcement, Public Works & Utilities, Maintenance Services, Hayward Police Department, as well as the Keep Hayward Clean and Green Task Force. In particular, Maintenance Services has long used various types of surveillance technologies deployed in problematic "hot spots" to further discourage the illegal dumping of items in the community. This informational report will provide an update on the types of surveillance used and its effectiveness over the past decade. While only one of the many tools used to combat illegal dumping, surveillance technology has been an effective means to modify behavior in a specific location. In addition, this report also provides a status update on the two targeted illegal dumping pilot projects that the Maintenance Services Department plans to implement over the next six to nine months.

BACKGROUND

In 2014, Council adopted Hayward's General Plan, which includes the following economic development goal in support of Council's Clean and Green priorities:

Goal ED 5.4: The City shall maintain and implement programs that are specifically designed to address Hayward's community appearance problems (graffiti, litter, abandoned vehicles, illegal dumping, weed abatement, property maintenance, illegal signs, etc.).

Furthermore, when Council adopted the updated Strategic Roadmap on June 1, 2021¹, one of the six priorities was “Support Quality of Life”. One key project (#7) is the implementation of a targeted illegal dumping prevention program.

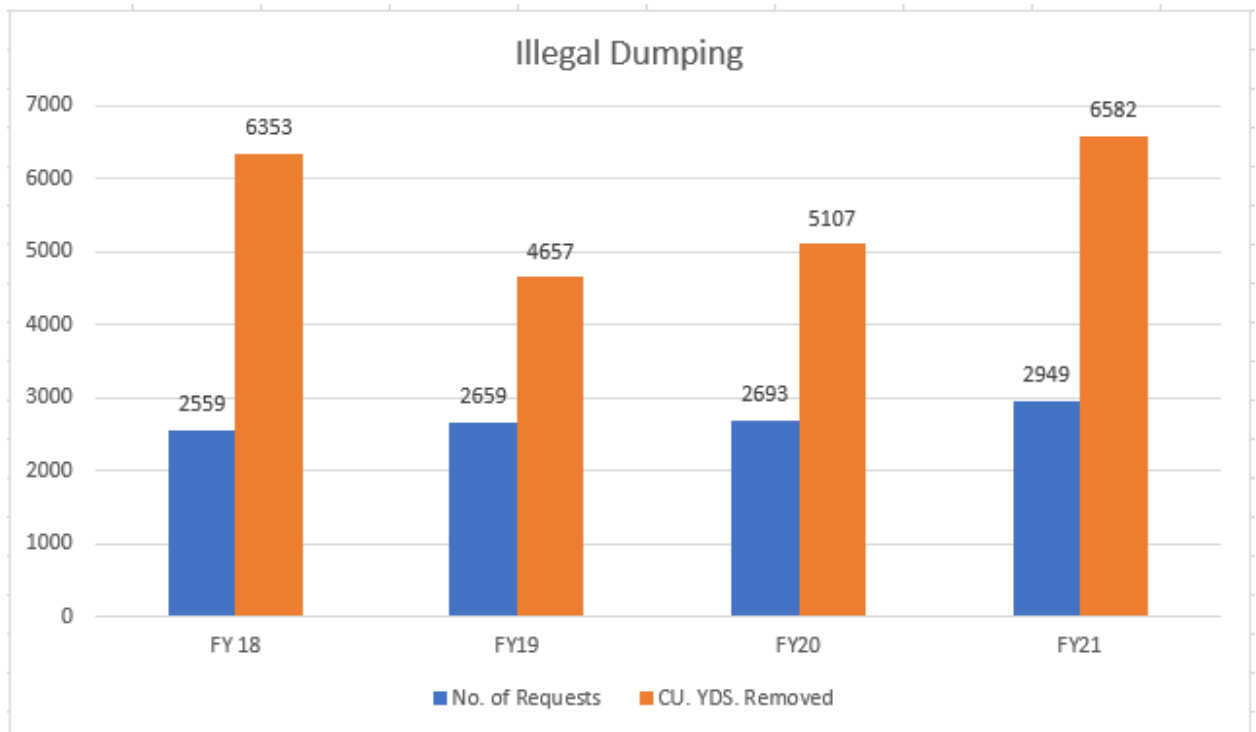
DISCUSSION

City staff has been active in the pursuit of a cleaner and greener community for residents, property owners, businesses, and those that visit the City. While most property owners maintain their properties in good condition and keep the street and sidewalk areas free from trash and debris, it is the City’s goal that everyone maintain their properties in a manner that is consistent with preserving the safety and cleanliness of the public right-of-way. That said, Maintenance Services is regularly tasked with requests for the removal of illegal dumping within the public right-of-way. The City is proactive in its goal to quickly abate issues of blight to support the City’s goal of a clean and green Hayward.

In addition to enforcement and surveillance technologies, staff has found that providing the community additional options for the proper disposal of refuse, as well as deterrents are equally, if not more, effective than criminal enforcement. No single solution singlehandedly eliminates illegal dumping. Below is a summary of the actions taken by the Maintenance Services Department to accomplish this goal:

- **Data** – Access Hayward is used as a means of reporting illegal dumping and allows for the tracking of requests by location, number of occurrences, and the total cubic yardage removed. The total number of requests for the removal of illegally dumped items reported to the City over the last four fiscal years has remained relatively flat. The increase in both the number of cases and cubic yards removed in FY21 may be attributed to the pandemic and the volume of occupied households that would have otherwise been at their respective workplace. While we track both case count and cubic yardage, we believe case counts is a more accurate reflection of illegal dumping trends since cubic yardage fluctuates regardless of the total number of cases.

¹ <https://hayward.legistar.com/LegislationDetail.aspx?ID=4968961&GUID=22D0F57F-B982-4566-8DA6-CE2854247AB0&Options=&Search=>



- Surveillance Technologies** – Maintenance Services has experimented with and implemented numerous types of surveillance technologies to decrease illegal dumping over the past decade with varying levels of success. Each technology provides a different outcome whether it be single/multiple images or actual video imagery. Each technology solution requires a corresponding amount of staff support for both on-going maintenance and monitoring. Below is a summary of the most frequently used types of surveillance and the impacts and outcomes staff has experienced.

- “Real-time” Video Surveillance*- While the most optimal form of surveillance is real-time video surveillance, it requires both available electrical power to charge the camera and network availability to enable remote connectivity to review footage. Areas that are frequently subject to illegal dumping rarely have both electrical and network availability in areas where mounting is optimal, such as public utility and street light poles. In an effort to create a specialized surveillance unit that’s both mobile, charges itself via solar power, and has network accessibility, staff has worked with two companies to create fully self-contained units to meet our specific needs.

The amount of power required to continually operate a video surveillance system 24 hours a day, 7 days a week, requires the solar panel to be sizable. These types of systems have proven problematic to both mount and maintain due to their size and weight. It is common that a charging source, similar to a 12-volt car battery be used as part of the system. Safely and securely mounting a unit of this size and weight on a traditional street light pole has proven difficult and is of concern due to its weight as it relates to the safe passage of pedestrians below. Short of a more complex and costly series of cameras more

traditionally used in traditional business districts, this solution doesn't provide the City with the flexibility or nimbleness to easily transport and relocate the system as instances of illegal dumping occur. The amount of staff time to adequately manage this type of surveillance is expansive and cost prohibitive. The cost for a single surveillance system of this type ranges between \$10,000-15,000 per unit.

2. *Motion Activated Video Surveillance-* Based on some of the complexities mentioned above for real-time surveillance, motion-activated (does not record continually) mobile surveillance options are more readily available on the consumer market because the amount of continuous power to charge them is drastically reduced. Mobile video cameras in this form such as "deer cameras" are more easily mounted due to their reduced weight and provide far greater flexibility when conditions dictate units be moved to another location. However, most cameras of this type still require frequent re-charging of the internal battery or use of an accompanying solar panel. Also, since video footage is recorded on an internal SIM card, any footage that needs to be reviewed requires staff to physically go up the mounting pole to remove the SIM card. While effective, the amount of on-going staff time is extensive. The cost for units of this type range between \$1,000-2,000 per unit.
3. *Still-shot Camera and Deterrent System-* While one of the older technologies, an "all-in one" motion-activated surveillance camera system with an audible deterrent continues to be the most effective solution staff has identified and used. This system is designed to be used for illegal dumping reduction, its approximately the size of a standard shoe box, weighs under 10 pounds and is powered via a built-in solar panel, camera images can be retrieved via Bluetooth from the ground below. This solution includes a 24 mega-pixel auto-zoom camera that is activated via motion in its range of view. Once motion is detected, an audible "warning" voice is projected, and single photographs are taken every three seconds until motion ceases. This solution is also available in a "decoy" version that can be swapped out inconspicuously so the technology can be used elsewhere without the removal of a deterrent. The cost for our preferred technology of this type is \$7,000 per unit and less than \$1,000 per unit for decoys. An all-in-one unit that is easily moved location to location provides the best outcomes. After a decade of use, Maintenance Services has found this style of surveillance to be the most cost-effective deterrent against illegal dumping. Considering the above, staff recommends procuring five still-shot cameras and five decoys using available General Fund/Measure C monies in the FY21 Maintenance Services budget. Additionally, Maintenance Services will be requesting a three-year CIP project to further expand the use of this technology set.

- **Illegal Dumping Ordinance-** (Hayward Municipal Code Section 5-7.25) City Council adopted amendment to the City's existing "Community Preservation Ordinance, Chapter 5, Article 7", addressing unlawful nuisance on private property

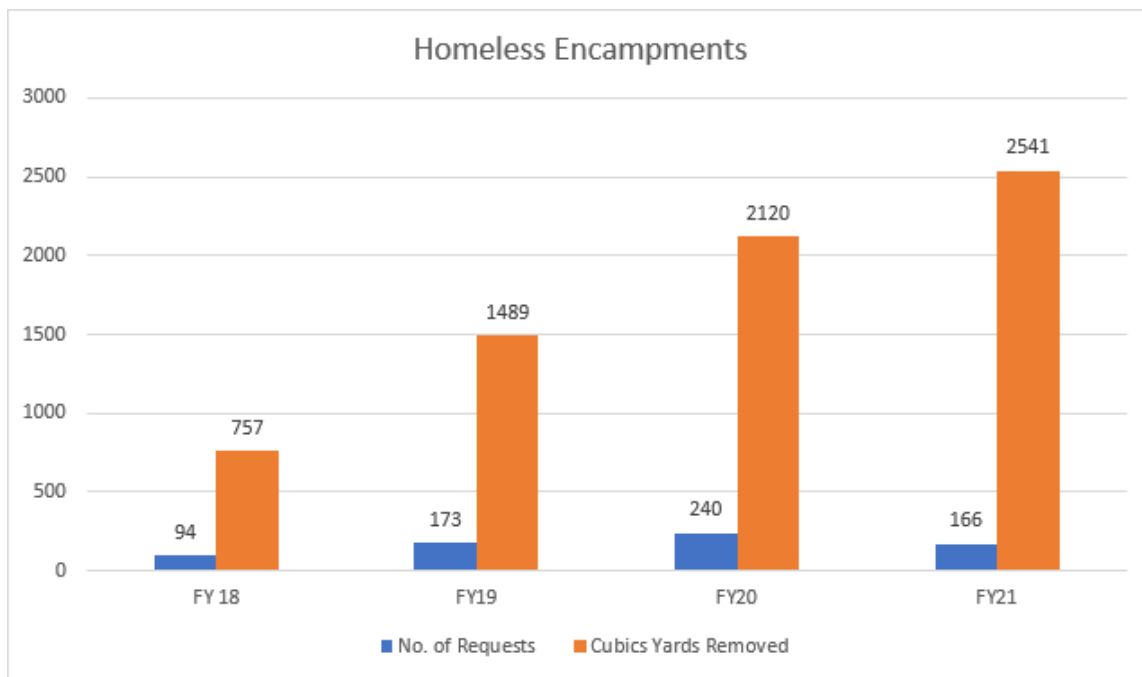
on October 23, 2012. This provision places responsibility on occupants, tenants, and private property owners to keep the public right-of-way adjacent to their properties free of trash and debris to ensure safe travel for pedestrian and vehicular traffic, prevent blight, and otherwise protect and promote the public health, safety, and welfare. Staff utilizes the enforcement tools and remedies in the existing Ordinance to address violations. Furthermore, the Ordinance provides a mechanism for property owners to appeal any citation fees and penalties that may be issued. This Ordinance has also allowed staff to develop better lines of communication with property owners. Through this line of communication with business and property owners the Ordinance has shown a positive effect on the frequency and amount of trash dumped in the historic hot spots.

- **Signs** – Maintenance Services utilizes different types of signage to aid in the education and enforcement of our efforts. Large LED message boards are placed in historical “hot-spots” to educate the public and provide alternatives for items they wish to discard. Staff has received praise and encouragement from the community in regard to the use of these signs. Additionally, we also place permanent signage in known areas of dumping encouraging residents to contact the Hayward Police Department if they witness someone dumping illegally.
- **Lean Innovation-** Illegal dumping was included as a specific target topic of the Lean Innovation process. As part of this 2016 effort, City staff identified the South Hayward neighborhood as an area with the highest volume of illegal dumping and contacted over 250 residents in this neighborhood. Our contacts included both single family and multi-unit dwellings. While upwards of two-thirds of the residents contacted admitted they knew dumping items was in fact illegal, it was determined that many were not aware of the options available to them. City staff responded to the feedback and provided these residents with Waste Management vouchers and additional education by way of the LED message boards.
- **Adopt-a-Block Program-** Beginning in 2012 in partnership with the Keep Hayward Clean and Green Task Force, the Maintenance Services administers the Adopt-a-Block program to encourage community members and the business community to take an ownership role in the appearance of City by volunteering to adopt a block. The KHCG TF continues to actively promote this program and new streets are added each fiscal year. Since its launch the number of adopted blocks has grown from (16) in 2012 to (155) in 2021.
- **Waste Management of Alameda County (WMAC) Franchise Agreement-** The City’s agreement requires WMAC to collect up to six City staff referred locations each week where illegal dumping has occurred.
- **Bulky Pick-up Program-** The City’s bulky pick-up program offers Hayward single-family households and multi-family properties free collections of up to four (4) cubic yards per dwelling unit per year of bulky items such as furniture, mattresses, and appliances. The program is part of the contract the City holds with WMAC. In 2020, WMAC performed more than 12,000 bulky collections. While participation by

Hayward residents in the program has increased each year since the contract started in 2015, there has not been a corresponding decrease in illegal dumping.

Impact of the Increased Number of Unhoused Individuals

As the number of unhoused individuals in the community has increased since FY18, City staff have seen a corresponding increase in illegal dumping. Requests for abatements in areas where the unhoused population congregate are typically submitted via Access Hayward or through the Hayward Police Department. To accurately track data, Maintenance Services tracks cubic yards of illegal dumping and debris generated by the unhoused population separately. The graph below reflects the number of incidents and the total cubic yardage removed from homeless camps over the last four fiscal years. This data is separate and above and beyond what was removed when responding to traditional illegal dumping. Using FY21 as an example (2,541 cubic yards removed), the abatement of homeless camps increased the total cubic yardage staff removed citywide by more than 35%.



Proposed New Pilot Projects

As part of the City's Strategic Roadmap, the Maintenance Services Department will be piloting two separate projects in FY21, both supporting a targeted reduction in illegal dumping. The goal of both pilots is to provide additional, no-cost alternatives for community members to properly dispose of household debris that could otherwise end up in the community in the form of illegal dumping. These pilots will test two separate hypotheses: (1) "it's too expensive to properly dispose of refuse," and (2) "I would dispose of items correctly if an option was available in my immediate neighborhood."

In the first pilot, “Dump Days”, all households within a specific neighborhood will receive an invitation via United States Post Service (USPS) with a coupon that can be redeemed on a selected date where households will be able to dispose of up to five cubic yards of trash at no-cost at one of the City’s transfer sites in Hayward. Staff is working diligently on the logistics involved to hold the initial event around January 1, 2022.

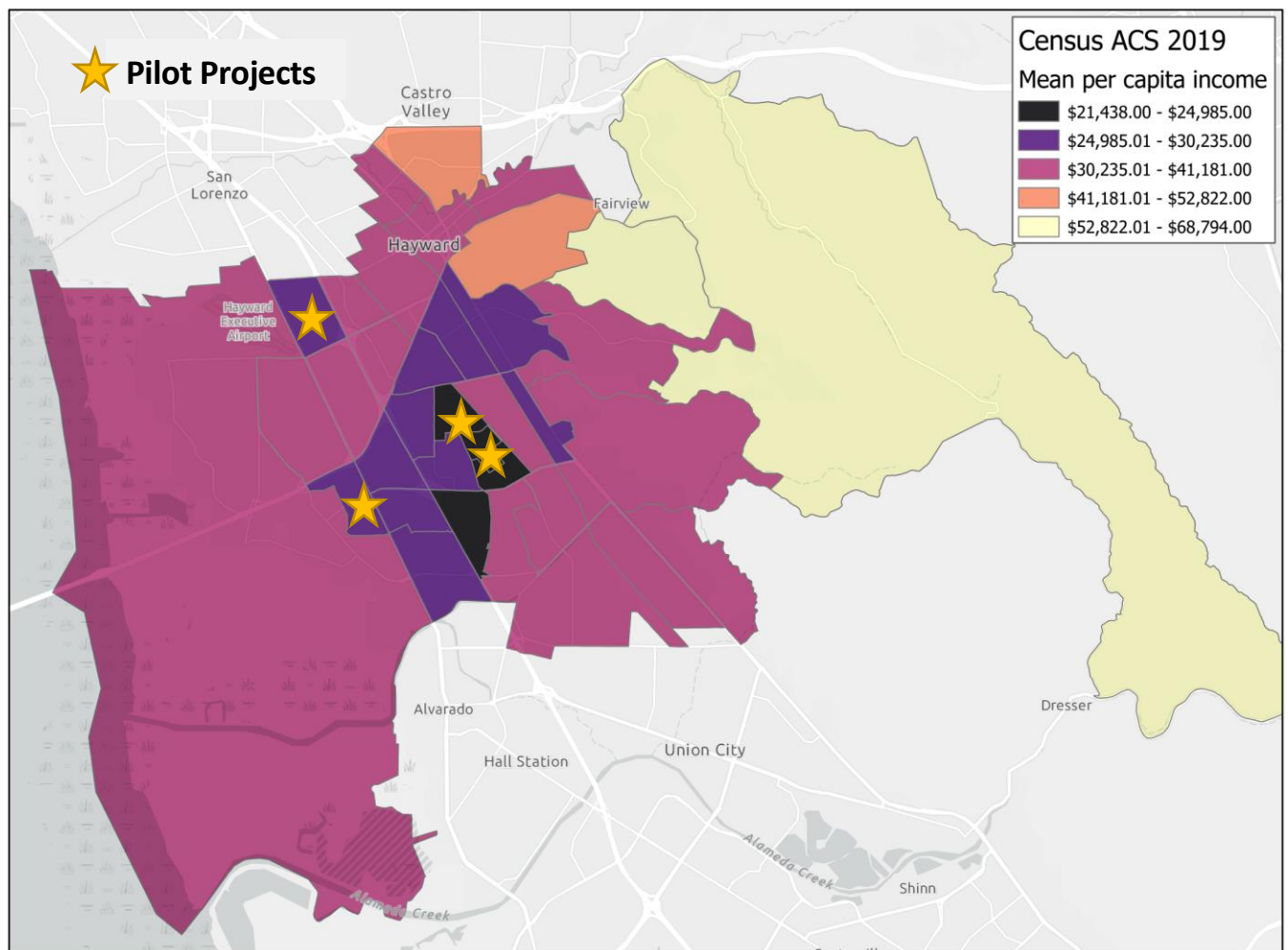
The second pilot, “Bring the Dump to You” will follow a similar notification process via USPS. This project will allow community members to dispose of five cubic yards of trash at no-cost at a location in their specific neighborhood. This model does have some logistical challenges, including being able to safely stage numerous WMAC dumpsters in the day(s) prior to the event. When conducting similar events, unattended garbage dumpsters are often targeted by illegal dumpers. We are actively working on solutions surrounding partnerships where dumpsters could be safely secured in advance. Additionally, staff is reviewing the possibility of holding such events without WMAC dumpsters. Similar to KHHG events, a location in the neighborhood would be identified as the staging area and debris would be dumped and immediately loaded into City trash trucks for disposal. Staff anticipates launching the initial project for this pilot in the first quarter of 2022.

Equity Analysis for Pilot Projects

As part of the City’s ongoing diversity, equity & inclusion (DEI) work, staff have designed these pilots to target Hayward residents who are most likely to be negatively impacted by systemic racism and intergenerational poverty. As stated above, these pilots will test the hypotheses that it is too expensive and too far to properly dispose of refuse for the City’s most impacted residents.

To target these residents, staff used American Community Survey data to identify the neighborhoods with the lowest mean per capita income. Staff used per capita income instead of household income because these neighborhoods also have large household sizes and overcrowding that can skew the household income data.

The heat map below shows the mean per capita income by census tract and the four neighborhoods that staff have selected for these pilots. Staff is targeting four of the six lowest income census tracts, while attempting to also achieve some geographic diversity.



FISCAL IMPACT

Measure C

In an effort to restore and maintain city services and facilities, the Measure C sales tax was adopted by Hayward voters in 2014. These additional revenues have now restored (7) FTE maintenance staff in Maintenance Services. Based on community need and the volume of requests received annually, these employees are tasked with the abatement of graffiti, litter and illegal dumping throughout the City. In order to provide a true fiscal impact absorbed by the City to address these issues, staff also included the cost of the weekend work program, which responds to and removes illegal dumping on Saturdays and Sundays. The total combined cost for the City to provide these services is \$1.3 million per fiscal year in total staff and equipment costs. This calculation doesn't include our bi-weekly street sweeping services which also aids in our efforts to make Hayward a cleaner and greener community for our residents.

STRATEGIC ROADMAP

This agenda item relates to the Strategic Priority of Support Quality of Life. Specifically, this agenda item relates to the implementation of the following project:

Project 7: Implement a targeted illegal dumping reduction program.
(Beginning in FY21)

SUSTAINABILITY FEATURES

Reducing illegal dumping and promptly cleaning up illegally dumped material supports the City's sustainability goals. Keeping neighborhoods clean improves the community's appearance and helps to minimize trash in storm drains and creeks.

NEXT STEPS

Following receipt of comments from CSC on the illegal dumping programs and projects as outlined above, staff will continue to work on implementation efforts.

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Recommended by: Todd Rullman, Director of Maintenance Services

Approved by:



Kelly McAdoo, City Manager