

**CITY OF LOS ANGELES**  
INTER-DEPARTMENTAL CORRESPONDENCE

Date: March 01, 2024

To: The Mayor  
The City Council

From: Matthew W. Szabo, City Administrative Officer



Subject: **INNOVATION FUND RECOMMENDATION – CLEANSTAT 3.0**

**RECOMMENDATIONS**

That the Council, subject to the approval of the Mayor:

1. Establish and appropriate a new appropriation account entitled Bureau of Sanitation – CleanStat 3.0 in the amount of \$85,000 within the Innovation Fund No. 105/10 from the available cash balance of the Innovation Fund.
2. Transfer \$85,000 from the Innovation Fund No. 105/10, Bureau of Sanitation – CleanStat 3.0 to Fund No. 556/50 as follows:

<u>Fund/Dept.</u>	<u>Acct No.</u>	<u>Account Name</u>	<u>Amount</u>
556/50	565401	Interfund Operating Transfer - Other Funds	\$ 85,000

3. Instruct the Bureau of Sanitation to:
  - a. Separately track all encumbrances and expenditures of Innovation Fund monies so that unspent funds can be returned to the Innovation Fund at the end of the fiscal year;
  - b. Report to the Innovation and Performance Commission with an accounting of the funds, the lessons learned, and any obstacles faced;
  - c. Report to the Innovation and Performance Commission if, after the receipt of funds, the scope of the funded item differs from the scope approved for funding by the Mayor and the City Council; and,
  - d. As appropriate, include acknowledgment of the Innovation and Performance Commission on public materials, such as press releases or websites that reference the CleanStat 3.0 project.
4. Authorize the City Administrative Officer to make technical corrections as necessary to those transactions included in this report to implement Mayor and Council intentions.

## SUMMARY

The City Administrative Officer herewith transmits the recommendation of the Innovation and Performance Commission (IPC) to approve funding in the amount of \$85,000 from the Innovation Fund (IF) for the Bureau of Sanitation (BOS) – CleanStat 3.0 pilot project. As with all IPC recommendations, this report presents the idea as submitted by the BOS and approved by the IPC along with the necessary recommendations to implement the idea as presented. If the scope of the Innovation Fund item changes after BOS receives funding, BOS must return to the IPC to present the revised scope to the IPC to determine whether alternative recommendations are required.

Currently, BOS employs the CleanStat 2.0, a tool that allows it to provide a targeted-service and a data-driven allocation of resources. BOS uses this data to develop a street-by-street cleanliness assessment for the City, using 10 crews to drive up and down each street and alley within the City of Los Angeles and visually collect any criteria locations using a mobile phone application. The current CleanStat model requires BOSA staff to drive the streets and alleys a day after an area's scheduled collection, capturing a snapshot of an area at a time, identify items that are likely to be unreported, and create data points that represent the items and record the data in segments that represent the streets. BOS states that it takes two months to complete data collection and one month for quality assurance/quality control of the data before the cleanliness assessment is released.

BOS is requesting funding to launch CleanStat 3.0, removing the need to use staff time to collect data manually by leveraging the BOS fleet of refuse collections vehicles' machine-learning algorithm to identify various items in the public right of way and convert that information into GIS data that can then be shared with operations staff to more rapidly improve service delivery. BOS aims to harness the latest advancements in machine learning (AI) technologies and algorithms, enabling the City to autonomously detect and identify bulky items, illegal dumping, overflowing litter bins, and other needed city services and assets in the public right of way, reducing the demand for staff intervention. Leveraging its fleet of 750 refuse collection vehicles, BOS can conduct a comprehensive street-by-street assessment on a weekly basis. This proactive approach empowers City managers to allocate resources more precisely and maintain a cleaner urban environment.

The ultimate objective of this project is to scale up from the initial 15-20 test vehicles located at a single yard to encompass all 750 refuse collection vehicles distributed across our 6 LA Sanitation solid yards. Integration of the vehicle devices into the planned telematics specification will eliminate associated costs. Allocation of stationary yard hardware will be contingent upon the successful demonstration of the pilot program and will be sourced from a combination of staff time reallocation and new funding.

BOS has identified a vendor, Samsara, which it states is the only system that can capture and transmit the volume of data in a reliable manner while also allowing for machine-learning algorithms to identify objects autonomously. Additional hardware would be used to receive the data transmitted from the refuse collection vehicles and transmitted to a central location once its vehicles have returned to their stations. BOS states that this equipment will

provide a dedicated network to ensure that the larger volumes of data can be downloaded from its vehicles as quickly as possible.

BOS states that the pilot phase of the project is planned to span nine months, equivalent to three quarters. During the first quarter, its focus will be on procuring and setting up the necessary hardware and software infrastructure. In the second quarter, it will commence data gathering and perform transmission checks. The final quarter will be dedicated to optimizing the data flow and conducting in-depth data analysis for the vehicles involved. This phase aims to test throughput as a precursor to potential citywide scaling. Upon the launch of the pilot program, the public will receive notifications through various social media channels, following briefings to city councils and mayoral staff. To ensure ongoing public trust and support for the program, staff will conduct live software demonstrations at community events and meetings. Additionally, BOS will disseminate white papers detailing the project to conferences and universities, inviting expert feedback for potential future enhancements to the program. Through research and discussions with hardware vendors and software developers, BOS has not identified any other public agency currently utilizing this technology to enhance city services. The City of Los Angeles will pioneer this innovative approach through our upcoming pilot program.

BOS states that it is aware of potential privacy concerns and that the data collected will solely serve to identify nuisance items within the public right of way. The machine learning algorithm will exclusively focus on item identification, with no capacity to recognize individuals, addresses, or vehicle license plate information. In consideration of the substantial volume of data amassed (hundreds of terabytes), a strict data retention policy will be in place. Once data has undergone analysis via the machine learning algorithm, it will be promptly deleted. Only small subsets of data for model improvement will be retained for a short time period. This practice not only ensures efficient data management but also upholds public privacy. Moreover, it's important to note that data collected by BOS vehicles will remain securely within the LA Sanitation network, with no transmission over publicly accessible networks. This stringent approach further safeguards the confidentiality of the collected data.

The IPC recommends \$85,000 for the BOS – CleanStat 3.0 pilot project. The budget break down for this pilot is as follows:

Count	Item	Cost Per Unit	Tax	Total Cost
20	Samsara Vehicle Gateway VG54 One Way Facing Dash Cam Camera Connector	\$641.75	\$62.57	\$12,835.00
20	Pro-Vision Ranger 1080p DVR DVR Cables AHD Heavy Duty Camera KIT	\$1,480.00	\$144.30	\$29,600.00
8	5.8 GHz 12 dBi Professional Omnidirectional Antenna	\$170.00	\$16.58	\$1,360.00
8	UISP airMAX Rocket M5 Base Station	\$89.00	\$8.68	\$712.00

8	Ubiquiti Network POE-24-24W-G PoE Injector 24W	\$19.99	\$1.95	\$159.92
				\$0.00
2	Cisco Meraki MS120-8 - 1 Year Licensed Enterprise Switch	\$558.98	\$54.50	\$1,117.96
3	Dell Precision 7820 Tower	\$7,643.33	\$745.22	\$22,929.99
4	Cat6A Riser Ethernet Cable Shielded 1,000 Ft Green	\$298.99	\$29.15	\$1,195.96
2	Cat6A Field Term Plug Shielded	\$65.54	\$6.39	\$131.08
	<b>Estimated Hard Cost</b>			<b>\$70,041.91</b>
	20% Contingency			\$14,008.38
	<b>Total Estimated Project Hard Cost</b>			<b>\$84,050.29</b>

BOS states that during the pilot phase, it will exclusively utilize existing City staff for implementation. Additionally, hardware vendors have committed to providing installation support as required.

## FISCAL IMPACT STATEMENT

Approval of these recommendations will allocate \$85,000 of the remaining \$2,608,016 Innovation Fund 2023-24 available balance. The \$85,000 will be transferred to the BOS to begin implementation of the pilot project that has been approved by the Innovation and Performance Commission. In some cases, departments will incur ongoing costs.

## FINANCIAL POLICIES STATEMENT

The recommendations of this report are in compliance with the City's Financial Policies as Innovation Fund monies are being utilized for an eligible project which will improve the quality, efficiency and effectiveness of City service through innovation, productivity, and performance measurement.