



December 6, 2018

THE CHALLENGE: Los Angeles residents consider clean streets and alleys to be among the fundamental responsibilities of their city government. However, in recent years, Los Angeles had not met its residents' expectations for street and alley cleanliness. The City received growing numbers of complaints from residents concerned about excessive litter, illegal dumping, and other trash, especially in neighborhoods with predominantly low income and minority residents.¹

THE APPROACH: In January 2016, Los Angeles began measuring the cleanliness level for each city street and alley by instituting a quarterly trash census. Through this initiative, known as <u>CleanStat</u>, sanitation crews assess and grade street and alley cleanliness and automatically transmit the data to the City's service request database. The data gathered is then used regularly by Los Angeles city staff and leadership to identify and prioritize the 35,000 bulky items and illegal dumping clean-up requests received, on average, each month.²

THE RESULTS: CleanStat has provided Los Angeles city government leaders actionable data that is used to deliver consistently cleaner neighborhoods, streets, and alleys. Since its creation in 2016, CleanStat has prioritized:

- the reduction from 312 miles of streets and alleys requiring immediate clean-up in the first quarter of 2016 to only about 53 miles by the first quarter of 2018 (or under 1% of city blocks);
- a citywide 83% reduction in miles of not clean streets, a 95% reduction in somewhat clean streets, and a 71% increase in miles of clean rated streets between the first quarters of 2016 and 2018; and
- 3. enhanced city clean-up services, with gains overall as well as in some of the historically poorest served neighborhoods. South Los Angeles, for example, experienced a 74% reduction of miles of not clean streets, and nearly 180% increase in miles of clean rated streets.³

INTRODUCTION

Beginning in January 2016, in response to large and growing amounts of illegal dumping of waste in Los Angeles neighborhoods, the City's <u>Bureau of Sanitation</u>, in collaboration with the <u>Los Angeles Mayor's Office</u> and <u>City Council</u>, decided to take a new approach to the long-standing problem of how to effectively keep streets and alleys clean.

In order to eliminate the backlog of illegal dumping service requests and try to get ahead of future requests, the City began rating the cleanliness of every street and alley. Through this initiative, known as CleanStat, sanitation crews assess and grade street and alley cleanliness and automatically transmit the data to the City's service request database. Each block and alley is assigned a "cleanliness score" from one to three: 1 - Clean, 2 - Somewhat Clean, or 3 - Not Clean. City staff and leadership then use the data to identify and prioritize illegal dumping and trash clean-up efforts. The Los Angeles Bureau of Sanitation includes 2,800 sanitation workers and 1,500 vehicles and is responsible for trash pick-up from 750,000 homes per day as well as regular clean-up of more than 8,100 miles (measured as the total length of each street segment in miles) of public streets and alleys.4

Through CleanStat, Los Angeles city government has notably increased the cleanliness of streets and alleys while strategically deploying limited sanitation resources to address the cleanup areas of greatest need. This initiative was created and implemented under the direction of Miguel Sangalang, Los Angeles's Deputy Mayor for Budget and Innovation and Results for America Local Government Fellow, in collaboration with the Los Angeles Bureau of Sanitation.

important to the health and well-being of every Angeleno

— from children who walk to school, to small business owners looking to create thriving commercial corridors.

This data-driven rating system measures L.A.'s cleanliness, block-by-block, so we can get the right resources to the right place at the right time.

— ERIC GARCETTI

Mayor of Los Angeles



Los Angeles Mayor Eric Garcetti and City Council President Herb J. Wesson, Jr. help plant a tree on Pico Boulevard.

THE CHALLENGE

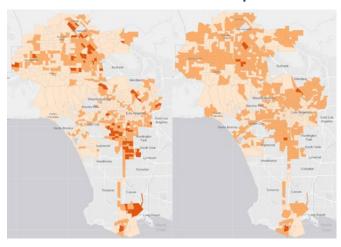
Los Angeles residents consider clean streets and alleys to be among the fundamental responsibilities of their city government. However, in recent years, Los Angeles had not met its residents' expectations for street and alley cleanliness. Many residents complained of excessive litter, illegal dumping, and other trash, especially in historically low income and majority-minority areas of the city.5 Budgetary cuts in response to the Great Recession in Fiscal Year 2010-2011 further exacerbated the problem by reducing services for debris removal and street cleaning, including the removal of illegal dumping.6 This history led Los Angeles Mayor Eric Garcetti to include street cleanliness as a hallmark of his "Back to Basics" governing agenda.

Like many cities, Los Angeles was collecting output data for street cleaning services including response time data from resident clean-up requests related to illegal dumping, bulk items, litter, and weeds. The City was also collecting output data on the total tons of trash collected. However, Los Angeles lacked data about the outcome that mattered most to residents: overall street and alley cleanliness. Los Angeles wanted to find a way to ensure that their data collection matched resident concerns and accurately tracked street and alley cleanliness.

The mismatch between collected data and resident satisfaction also reflected an inherent limitation in the clean-up request system: the complaint-driven system missed the areas where no one called in street cleaning requests. As a result, unreported conditions – often in less affluent parts of Los Angeles – went unaddressed. By contrast, wealthier neighborhoods, where residents report service requests at a higher rate, received a higher level of service despite a lower need.⁷

CleanStat Assessment

311 Service Requests



Bulky Items - 2016 Q2 [Shading represents % of total]

The map on the left showing 2016 CleanStat Assessment results clearly indicates a need for bulky item street cleanup in the South L.A., East Fernando Valley, and Harbor areas of the City. The 311 Service Request map on the right — the system that was previously used to identify areas for street clean-up — fails to fully capture needs in these locations. The maps illustrate how the CleanStat Assessment data provides information for Los Angeles city government to deliver a more equitable and accurate approach to street cleaning services.

The History of Developing Los Angeles' CleanStat

- In June 2013, Los Angeles City Councilman Gil Cedillo <u>launched a pilot program, "Keep It Clean,"</u> to tackle trash and illegally dumped bulky items in Council District 1.
- In March 2015, in response to two Council motions, then-City Administrator Miguel Santana's office prepared a <u>report</u> with ten recommendations regarding strategies to clean up the city's neighborhoods and communities.
- In April 2015, Mayor Eric Garcetti issued Executive Directive No. 8, "Clean Streets Initiative," calling for implementation of several of the report's recommendations, including the creation of a street cleanliness assessment system. This initiative was a part of the Mayor's "Back to Basics" governing platform, which had the support of multiple City Council members who were engaged in a Clean Streets L.A. program.

THE APPROACH

Los Angeles city government realized that the data being collected through the resident clean-up request system was not telling the full story. They wanted a way to track the cleanliness level of each street and alley to better prioritize trash clean-up requests and help ensure more equitable clean-up services across the city. In January 2016, the City began measuring cleanliness for each street and alley by instituting a quarterly trash census. This method of grading street cleanliness – already used in multiple cities across the United States – gave Los Angeles the information they needed to begin prioritizing street cleaning services.

With \$1 million in new funding for quarterly assessments and other street cleaning improvements, the Los Angeles Mayor's Office, in partnership with the Bureau of Sanitation's Geographical Information Systems (GIS) scientists, wastewater engineers, and sanitation haulers, developed digitized maps and routes.8 They harnessed the technology already in the field to allow sanitation crews to use their tablets and ArcGIS Global Positioning System (GPS) technology to assess and score each city street and alley. From there, the Bureau of Sanitation developed CleanStat to track and publicly post data regarding the level of cleanliness for every city street and alley.

Since the launch of CleanStat, Bureau of Sanitation crews drive all of Los Angeles' more than 8,100 miles (measured as the total length of each street segment in miles) of public streets and alleys every quarter and assign each block a "cleanliness score" from one to three: 1 - Clean, 2 - Somewhat Clean, or 3 - Not Clean. Each street score is based on four factors:

- · Litter,
- · Weeds,
- · Bulky items, and
- · Illegal dumping.

been top priorities for Mayor
Garcetti's administration, and our
data-driven approach to proactively
measuring L.A.'s cleanliness blockby-block and prioritizing the areas
of highest need for equitable
service has been a centerpiece
of our efforts.

MIGUEL SANGALANG
 Los Angeles Deputy Mayor
 for Budget and Innovation

The data collected is then used to drive daily operations for the Bureau of Sanitation, which handles, on average, 35,000 bulky items and illegal dumping clean-up requests each month.⁹ Data is used to optimize the daily routes for hundreds of collections and to deploy the approximately 50 employees added under Mayor Garcetti's tenure who work in teams to combat illegal dumping across the city.¹⁰ Staff use the cleanliness scores to prioritize alley clean-ups, bulky-item pickups, and placement for thousands of new trash bins.

TIPS FOR REPLICATION

Ask What Matters to Residents?: In order
to best solve this problem, Los Angeles city
government determined it needed to collect
new data. To begin defining important metrics
to track, the City considered what matters
most to residents. In Los Angeles, city workers
were tracking how quickly they responded
to service requests and how many tons of
trash were collected. However, residents were
most concerned about the cleanliness of their

TIPS FOR REPLICATION (CONTINUED)

streets and alleys. Rather than just collect data on internal operations, the City determined that it needed to develop new data collection mechanisms to track street cleanliness outcomes.

• Help Residents Engage: Los Angeles posts all CleanStat data online for the public's review and use. The City also gives residents opportunities to prevent litter and address street and alley cleanliness through community clean-up challenges that include awards and recognition prizes. The City's 311 service request line is also widely promoted as an easy way for residents to call in litter and illegal dumping clean-up requests. These efforts empower residents to take an active role in addressing neighborhood cleanliness.



A Los Angeles sanitation worker cleans up a city street.

- Measure and Address Equity of Service: Once cleanliness data was tracked consistently, it became clear that this issue disproportionately impacts lower income neighborhoods of Los Angeles. Through the development of CleanStat, the City is better able to prioritize service overall, as well in areas of highest need. Now, sanitation crews prioritize illegal dumping clean-ups based on the severity of the cleanliness score and the Bureau of Sanitation reports out on equity of service across neighborhoods. As a result, the South Los Angeles area has seen some of the most dramatic gains from the first quarter of 2016 to the first quarter of 2018, with a nearly 180% increase in miles of streets rated clean, from 405 miles to nearly 1,130 miles.11
- Meet the Needs of City Employees: Los Angeles recognized that implementing a quarterly cleanliness assessment required developing criteria and a methodology that thousands of sanitation workers could easily understand, repeat, and use to deliver reliable data. The data also needed to be actionable to gain employee buy-in and improve chances of adoption. The simple grading scale of 1 -Clean, 2 - Somewhat Clean, or 3 - Not Clean and ongoing training for sanitation crew members helps ensure data quality.
- Research Best Practices: To confront the City's street cleanliness challenges, Los Angeles staff conducted a review of how other jurisdictions were addressing the same problem and found examples in city governments such as New York City, Philadelphia, and San Francisco. They used the information about city cleanliness indexes to develop their own quarterly assessment. In addition, Los Angeles modified the systems used by other cities by grading every single street and alley to create a more complete assessment of local clean-up needs, rather than just grading a representative sample.



Before: Alley clean-up in Central Alameda neighborhood.

THE RESULTS¹²

The development and regular use of CleanStat has provided Los Angeles city government leaders actionable data that is used to deliver consistently cleaner neighborhoods, streets, and alleys. Since its creation in January 2016, CleanStat has generated:

- The reduction from 312 miles of streets and alleys requiring immediate clean-up in the first quarter of 2016 to only about 53 miles by the first quarter of 2018 (or under 1% of city blocks);
- A citywide 83% reduction in miles of not clean streets, a 95% reduction in somewhat clean streets, and a 71% increase in miles of clean rated streets between the first quarters of 2016 and 2018;
- Enhanced city clean-up services, with gains overall as well as in some of the historically poorest served neighborhoods.

South Los Angeles, for example, experienced a 74% reduction of miles of not clean streets, and nearly 180% increase in miles of clean-rated streets.;

- Quarterly open data postings where anyone can view and evaluate the City's cleanliness scores; and
- Opportunities for community members to propose clean-up challenges and receive city awards and recognition prizes for their efforts, giving residents forums to engage with city services.

Through CleanStat and the optimization of city clean-ups, the Los Angeles city government strives to enhance livability for residents, restore people's confidence in their government's ability to deliver core services, and increase perceptions of safety.

More broadly, CleanStat data has uncovered factors contributing to heavily impacted areas.



After: Alley clean-up in Central Alameda neighborhood.

THE RESULTS (CONTINUED)

For example, the data indicates that proximity to major highways is highly correlated to high levels of illegal dumping and trash. CleanStat data has also helped City staff identify corridors with consistently high levels of litter that lacked a public trash receptacle. These insights allow the City to assess what resources might be lacking and ultimately provide strategic deployment of resources to optimize cleanliness outcomes. For example, 3,750 new public trash bins were installed across the city – a major investment in data-informed infrastructure – in those areas with the highest levels of debris and foot traffic that were rated unclean.¹³

Looking ahead, the City of Los Angeles is preparing to update the CleanStat system technology. Currently, City staff manually enter data while out in the field, but through a collaboration with the University of Southern California, the City is developing a more automated assessment system. The system being developed uses machine learning to automatically score street cleanliness using video footage from sanitation vehicles. The automated scoring system can come within 90% accuracy of manual cleanliness scores, and the City ultimately hopes to reduce staffing needs and provide ongoing real-time assessment of street and alley cleanliness.

Since the second quarter of 2018, in response to a typhus outbreak, the Los Angeles city government has temporarily paused its quarterly grading of street and alley cleanliness to augment direct clean-up operations, as part of its CleanStat initiative. Los Angeles government intends to restart its quarterly street and alley review and grading beginning the fourth quarter of 2018.

ABOUT RESULTS FOR AMERICA'S LOCAL GOVERNMENT FELLOWSHIP PROGRAM

Results for America's Local Government Fellows program was founded in September 2014 to provide an advanced group of local government leaders in diverse and influential cities and counties across the country the knowledge and support to implement strategies that consistently use data and evidence to drive policy and budget decisions on major policy challenges.

With the support and guidance of Results for America, the Local Government Fellows lead their governments toward advanced stages of data-driven and evidence-based policymaking in order to address major policy challenges in their communities. The **16 cities** and counties

represented in the Fellowship collectively represent more than **28 million** people and **\$148 billion** in local government spending.

RFA engages its local government Fellows in:

- Defining short- and long-term policy goals;
- Developing research partnerships with academics;
- Sharing best practices and demonstration projects;
- · Problem solving among peers;
- Receiving individual feedback and coaching; and
- Participating in a national network and peer cohort.

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- Heather Repenning, Vice President, Board of Public Works

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- · Sari Ladin-Sienne, Chief Data Officer

ADDITIONAL RESOURCES

- Visit the Los Angeles <u>CleanStat website</u> to explore color-coded maps indicating street and alley cleanliness conditions.
- Read the former City Administrator Miguel Santana's March 2015 report with ten recommendations regarding strategies to clean up the city's neighborhoods and communities: http://cao.lacity.org/ Reports/06150112%20Improving%20 Livability%20in%20Los%20Angeles-Clean%20Streets%20LA.pdf
- Learn more about Results for America's Local Government Fellowship at http://results4america.org.

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PHOTOS

Cover Photo: Flickr Commons – josullivan.59.

Page 2: Los Angeles Mayor's Office.

Page 3: City of Los Angeles GeoHub data, available from geohub.lacity.org.

Page 5, 6 & 7: Photographer Jimmy Tokeshi.

ABOUT THE INVEST IN WHAT WORKS POLICY SERIES

This report is part of Results for America's Invest in What Works Policy Series, which provides ideas and supporting research to policymakers to drive public funds toward evidence-based, results-driven solutions. Results for America is committed to improving outcomes for young people, their families, and communities by shifting public resources toward programs and practices that use evidence and data to improve quality and get better results.



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