

Empowering cities
and citizens



LA improves sanitation services with a cloud-based spatially enabled mobile solution

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**Robert Irvin, Assistant General Manager,
Los Angeles Bureau of Sanitation**

As part of an effort to improve service to Los Angeles residents, Los Angeles (LA) created the MyLA311 system so that citizens could easily initiate a service request ticket to report garbage, graffiti, and other cleanup issues. LA used cloud-based technologies to include mobility, mapping, tracking, and dashboarding capabilities—collectively called SANSTAR—to streamline service request processing and monitor field crews' progress. Now, citizens get quick responses to service-related questions, and LA improves quality of life through more efficient waste-removal operations.



Los Angeles Bureau of Sanitation

3,000 employees

www.lacitysan.org/san

United States

Municipal government

Company profile

LA Sanitation protects public health and the environment in the city through three programs: Clean Water (wastewater), Solid Resources (solid waste management), and Watershed Protection (stormwater).

Partner profile

Spatial Wave

spatialwave.com



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A car blocks the entrance to the alley behind the restaurant, so the garbage truck can't pick up the bin. An inconvenience. The construction company dumps a load of waste in a ditch next to the park. An eyesore. Homeless encampments build up trash over several days. A health hazard.

While scenarios like these plague any big city, Los Angeles wants to make sure that the consequences don't become a part of the landscape—in any part of the city. That means disposing of waste as soon as it's reported. The City of Los Angeles Mayor Eric Garcetti, the City Council, and the Bureau of Sanitation all hold the core belief that keeping LA clean offers a better quality of life for the more than 4 million people who live and work there.

Convenient cleanup with citizen input

That's one of the reasons LA created MyLA311—a city service in which citizens can initiate a service request using a web portal, email, smartphone app, or phone call to report nuisances ranging from potholes, illegal dumping, broken trash bins, and graffiti to overgrown trees, dead animals, and sofas left on the sidewalk. The city has always taken care of these problems, but MyLA311 uses technology to give citizens a number of quick, convenient ways to ask for cleanup services.

To make MyLA311 more effective, the Los Angeles Bureau of Sanitation (LASAN) decided to add a mobility component that it calls SANSTAR. It took the MyLA311 tickets and moved them into a spatially enabled mobile solution that uses geographic information system (GIS) technology. "We can optimize the SANSTAR system based on routing so that the right sanitation crews in the field get their work instructions on a tablet," explains John Tays, Systems Analyst at the Los Angeles Bureau of Sanitation. "The crews, in turn, report back on their progress, and the ticket's progress is updated automatically."

But what if the reported waste doesn't get picked up? That's when citizens get frustrated and want answers. Now, citizens can get those answers through the call center of the City of Los Angeles Bureau of Sanitation. Anita Fernandez, Director of Systems at the Los Angeles Bureau of Sanitation, says, "Because workers can use SANSTAR to relay messages from the field, if a crew can't collect waste, they can enter a reason code right from the site that summarizes the problem."

Spatial Wave, a Microsoft CityNext Partner, designed SANSTAR using Microsoft Azure cloud services and its own Field Mapplet software, which provides the fieldwork solution for mobile computing by using a Microsoft Azure SQL Database service in the cloud. LASAN managers can monitor key performance indicators (KPIs)—including ticket tracking and processing—on dashboards in the Spatial Wave Mapplet Analytic Tileboard (MAT) solution. LASAN drivers use Microsoft Surface 3 LTE devices to get aerial views, zoom in, zoom out, and follow turn-by-turn instructions using the Bing Maps application programming interface (API).

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More effective sanitation service, lower taxpayer costs

Embracing the cloud is providing the LASAN with positive results. Robert Irvin, Assistant General Manager of the Los Angeles Bureau of Sanitation, says, “Everything is now in the cloud, devices have cellular connections, and they’re always on and always connected. As a result, we now save a great deal of time. It’s faster to sync devices, define routes, and get drivers out into the field. And that enables us to serve the public better.”

Irvin notes that cloud technology and off-the-shelf partner solutions were critical to completing the project within the tight turnaround time he was given. “We had a deadline from the mayor to get the system up and running in less than two months,” he says. He adds that the mayor’s technology director was surprised that it all came together as fast as it did. “He’s very good technically and knew what was involved in implementing a project of this scope,” continues Irvin. “When I told him the system was live, he said, ‘Wow. I should have brought champagne.’”

Now that SANSTAR is up and running, taxpayers are already seeing benefits. “We’ve always been good at meeting our internally defined deadlines for waste pickup, but the new system helps us do it much more efficiently,” says Irvin. “We need fewer overtime hours, and the public always likes to see the city work better with fewer dollars.”

Tays adds that drivers are also benefiting. “Before, a driver only knew what was on his route, not what was on anyone else’s route. Now, with this system, drivers can stay up to date about what’s happening in the field among all their fellow drivers. So, if there’s a breakdown or an accident, for example, they can reroute to pick up those collections.”

Using SANSTAR helps management keep the sanitation system running better too. “Supervisors are now able to see on the system’s dashboard when a ticket gets closed and how efficiently their crews are collecting the loads,” says Fernandez. “They can also plan ahead to give a driver needed information and readjust the schedules or routes to maximize pickups.”

The bureau is setting up dashboards at all of its bases so that supervisors can see moment-to-moment what’s going on with their crews and how the service-request process is going. “That’s helpful to them,” says Irvin. “It’s something they’ve never had visibility into before.”

Similarly, says Fernandez, “Supervisors can find answers quickly. They can discover if the job was completed or, if not, explain why the collection wasn’t possible, based on comments in the dashboard from the field crew.”

Irvin adds, “We’ve only just begun to take advantage of SANSTAR to enhance sanitation operations, and that potential for ongoing improvement is the real value of a system like this. We’re providing better service to the public and we’re improving how we operate. That’s what better government is all about.”

More empowered public, better quality of life

As use of SANSTAR becomes more established, LA Sanitation will work with the system’s data to identify chronic areas where illegal dumping occurs. Says Fernandez, “We’ll become proactive in putting cameras in these areas, or we may reach out to residents to let them know that if they have something like an old couch, they can just give us a call and we’ll come pick it up. They may not realize there’s no need to dump it in a vacant lot or next to the freeway.”

LA Sanitation officials agree that these examples demonstrate how citizens will become empowered to make their neighborhoods and public spaces cleaner and to better monitor how their city operates in terms of waste-processing efficiency. "Whether it's illegal dumping or homeless encampments, we're talking about issues that affect the public's quality of life," says Irvin. "Making smart use of our resources and technology tools like SANSTAR, LA Sanitation is driving the cleanliness of the city."

Product Solution Taxonomies

Microsoft Azure SQL Database
Third party software
Field Mapplet
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Microsoft Surface 3 LTE

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