# Chapter 3
# AVOIDING COSTS

Though some may say they are one and the same, there is a clear distinction between cost savings and cost avoidance. GIS is always touted for saving money by streamlining processes, enhancing field data collection, improving navigation, and optimizing services. But it can also help organizations avoid costs altogether. Cost avoidance comes when an organization can eliminate a costly workflow from the budget or rethink how a service or operation is delivered.

Think decades back when organizations were able to eliminate paper and printing costs as they moved files and documents from filing cabinets to computers and digital filing methods. This eliminated a cost forever. GIS, too, can initiate a process change or modernize a workflow that removes a cost permanently. For example, governments have been able to bring GIS operations in-house and eliminate third-party data management and processing needs. GIS allows organizations to host on-demand access to data and information that helps avoid customer service costs, especially as the public demands more transparency and accountability. Also, GIS can improve the management and life cycle of public assets such as roads and utility networks, which can lead to better maintenance routines and prevent costly breaks or repairs. Mobile GIS technologies enable work crews to feed data back to the office, directly from the field, and avoid travel time and data postprocessing. Adding GIS to routing and logistics operations can ensure optimal routing and rerouting of fleets that avoids fuel and mileage costs.

Cost avoidance is sometimes referred to as soft savings, but the impact is real. Expenditures are avoided because processes and workflows can handle new demands without additional staff or tools. With the introduction of GIS, organizations can eliminate outdated or costly workflows and modernize operations. In many cases, cost avoidance occurs as a by-product of well-constructed workflows assisted by GIS.

# Glendale, California, looks to eradicate brush before fire season begins

## Community profile

- Glendale Fire Department, California
- Population of Glendale (US census 2019): 252,381
- Nature of the project: Preventing wildfires

**Community fact:** Grand Central Airport, in Glendale, California, also known as Grand Central Air Terminal (GCAT), was an important facility for the growing Los Angeles suburb of Glendale in the 1920s. It was also a key element in the development of US aviation. The terminal was built in 1928 and still exists, owned since 1997 by The Walt Disney Company. It was the departure point for the first commercial west-to-east transcontinental flight flown by Charles Lindbergh; Laura Ingalls landed at the airport on the first solo female flight across the country; and Amelia Earhart bought her first plane there.

Glendale sits along the San Gabriel mountain range and presents a moderate wildfire risk to residents. In the past few years, the city has experienced several destructive fires that have caused tremendous damage to area homes. The city covers 30 square miles of homes that are mixed in with brush areas. Traditionally, the city has maintained a rigorous brush abatement program as part of its wildfire management programs. Using flat and line-drawn maps, inspections took an intensive amount of manual labor to complete.

> In 2019, fire department officials in the city of Glendale, California, completed over 9,000 inspections to identify locations that needed work or might be susceptible to dangerous conditions that could result in wildfires. The development of new GIS tools has enabled community leaders to better understand exactly how many parcels the city has and how many homes are in the high fire danger areas.

To better prepare for the fire season in 2020, the city partnered with a consultant to help identify areas that needed work. This partnership helped city staff understand exactly how many land parcels the city has within its boundaries and how many homes are in the high fire danger area. Further, GIS technology has provided staff with better insight into the actual threat of fires by examining the potential fuels, such as brush and dead trees, that could interact within the community. The technology has also helped the city demonstrate the importance of the program to its residents.

The city has defined three main goals for its brush abatement programs. First, staff want to achieve 100 percent completion of all initial inspections, which amounts to more than 9,000 inspections a year. In this phase, an initial inspection is made, and the site either passes or doesn't pass. After the first inspection, the
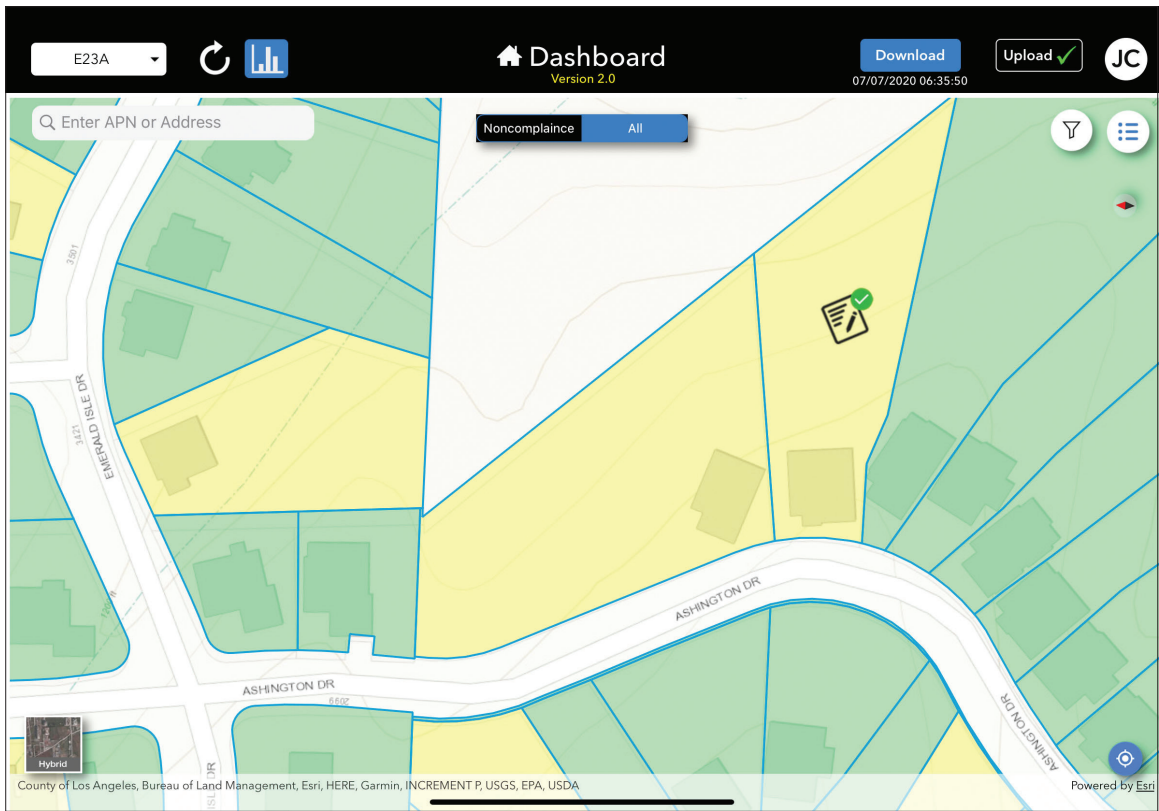
Providing inspectors with parcel maps allows the city to track and monitor the efforts of field crews.



Example of a photo taken by inspectors of a parcel with brush that could lead to fire danger

parcel owner is informed of what needs to be done to pass inspection. However, Silvio Lanzas, fire chief for the City of Glendale, did not anticipate that the city would make its 100 percent goal in the first year of a new system.

After the repairs or adjustments have been made by the property owner, a second inspection takes place. The goal of the project is to improve communication and cooperation with area residents so they know what to expect. Inspectors take a picture of the violation, share it with residents, and explain how important it is for them to act. The real key to a successful program is education.

Finally, the city works hard to continually improve and maintain the quality of public service and safety. Brush fires are of concern throughout California. Such fires can ravage cities, neighborhoods, homes, crops, and wildlife in a heartbeat. Taking preventive steps can greatly control damage should a wildfire get started.

Initially, Glendale worked to identify areas that clearly needed inspections. City staff collected data on how many parcels needed to be inspected, what time commitment would be required for the project, and how to ensure the appropriate staff members were assigned to complete the project. Additionally, the city afforded staff an opportunity to review aerial views of the homes and hillsides via drones and GIS technology by identifying partial layers within the neighborhoods. GIS technology offered an important ability to make better use of time and be more efficient. In the fire service and safety field, this capability can be a transformative technology.

Before adopting the new initiative, the Glendale team was required to make a presentation to the city council. The presentation outlined the initiative's





The fire department generates notices to residents to abate fire hazards.
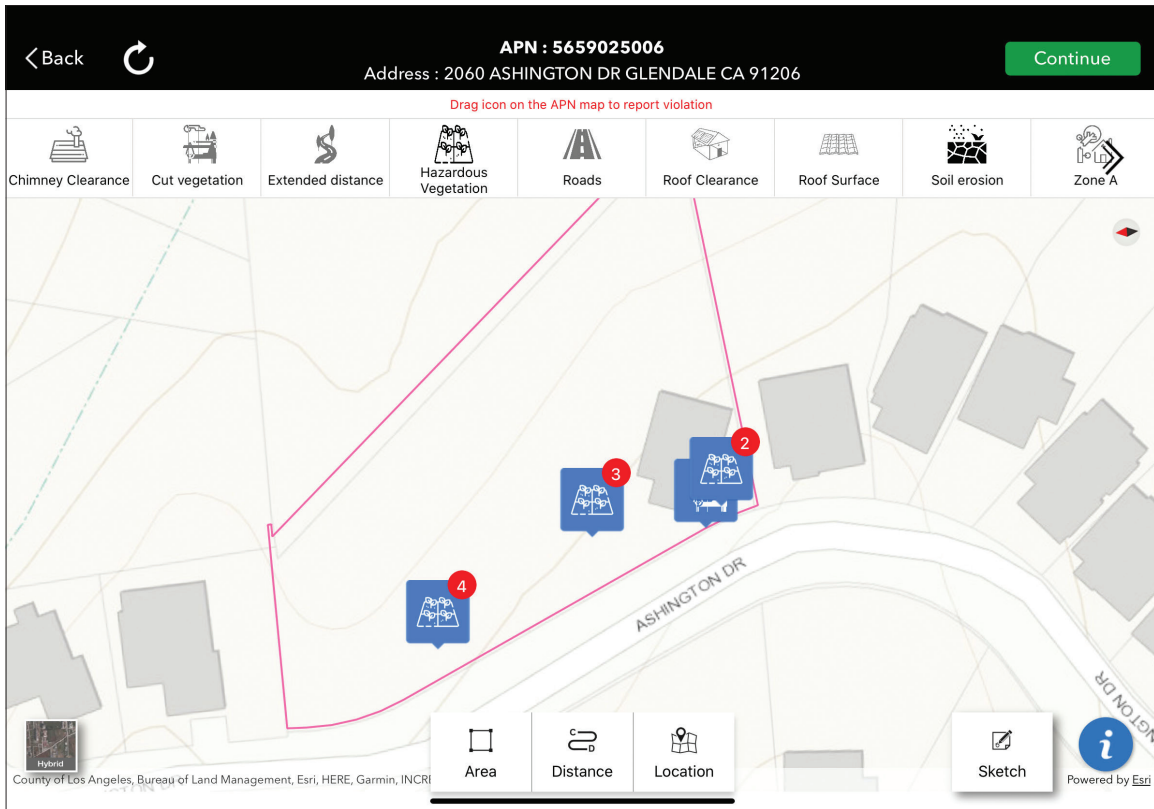
Field inspectors are empowered with GIS tools to collect data easily on types of fire hazards on each parcel.

goals, required staff hours, and estimated time to completion. Team members also took on the challenge of calculating ROI. With this new digital data available, the team was able to demonstrate the benefits for workforce and staffing and the associated cost benefit. For example, project labor can be reduced by two-thirds, saving time for work on other more critical projects.

The brush abatement project began in January 2018. The team had three main milestones to address as they started the implementation. The first milestone involved obtaining approval to use GIS technology for the project. Training helped encourage more buy-in from the staff involved. Finally, implementing

and conducting inspections provided a vetting process to ensure that the system worked as planned.

Inspections based on the new technology began in April and ran through December 2019. Internally, staff shared reports to help department executives understand the nature of the work. Once a month of inspections has been completed, reports are submitted to department executives. And annually, the staff is required by law to report on certain inspections in the fire prevention section to Glendale's city council.

The city has implemented all phases of using GIS technology to give the scope of a project, time requirements, and mapping results over time. GIS binds different datasets to create a view of what is happening on the ground. Having multiple layers and systems

in a GIS provides a huge benefit, enabling staff and the public to see how the local landscape changes year over year.

Typically, different staff and the tenure of those staff members pose challenges with technology. Teaching all the team members how to use the new software is critical. Project leaders need to locate people within the organization who have the interest and desire to change the way they work. The ability to deliver and get staff onboard with the new procedures is important; good communication is key. Staff need to understand how all the project pieces fit together and what their role is in ensuring success.

Encouraging the community and the organization to embrace change can be a challenge, but by realigning resources, the City of Glendale made great



The fire department will often conduct controlled burns to abate brush.

gains in working with its residents to prepare for a possible future disaster. Inspections were historically done by engine company personnel (first responders), who don't specialize in that type of work. Reassigning responsibilities for brush abatement to the department's fire-prevention section created ownership of the projects that aligned with personnel skills and interests. "Finding the best way to deliver our service is what we should focus on as leaders. What's best for our employees and the people we serve. That should be at the forefront of how we make our decisions," Lanzas said.

> *"GIS has been a great example of how we can make a difference in our communities."*
>
> **—Silvio Lanzas**
> *Glendale fire chief*

ADDITIONAL BENEFITS