A **GOVERNING** AND **GOVERNMENT TECHNOLOGY** CASE STUDY

Fueling Transportation Safety, Security and Savings with Data

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Maintaining and managing transportation infrastructure is a complex job. Leaders must ensure roadways are consistently safe and reliable while addressing increasing traffic demands, aging structures and tight budgets.

The California Department of Transportation, known as Caltrans, faces such challenges with one of the largest state transportation systems. The department is responsible for over 400,000 lane miles and 249 state highways. It also manages 1,300 facilities, 12,000 vehicles and 30,000 traffic signals.

"Caltrans' mission is a thriving and connected California," says Steve Junkovic, the department's maintenance area superintendent.[1] "Effective maintenance is key to achieving this goal."

After years of relying on siloed maintenance tools and legacy systems, Caltrans standardized on a unified solution provided by Infor to manage maintenance, assets, inventory and internal permitting workflows. The system, branded internally as the Integrated Maintenance Management System (IMMS), serves as the operational system of record for work planning and execution across the statewide roadway network.

To support public-facing encroachment permitting, Caltrans introduced the California Encroachment Permitting System (CEPS), a cloud-based interface powered by Infor and Amazon Web Services (AWS). CEPS allows external users to submit, track and update permit requests, improving access and coordination.

By bringing these processes into one unified solution, Caltrans staff can use operational data to make strategic decisions, reduce conflicts between overlapping work activities and prepare for the future while prioritizing safety.

For Caltrans, standardized digital intake ensures consistent, secure data capture from the start.

Creating a Secure Permitting Experience

In the past, the encroachment permitting process at Caltrans required significant manual coordination between applicants and agency staff. External parties had limited visibility into permit status, and staff had to track requests, review documentation and coordinate access to the roadway during construction. As application volumes increased, managing permits at scale became more complex and time-consuming for both applicants and Caltrans teams.

With CEPS, Caltrans modernized the applicant experience while improving internal coordination. Through the cloud-based public portal, applicants can manage multiple applications in one place. They can quickly check their status, submit saved or completed applications, pay fees, and review payment history.

"Any organization implementing a new solution should first decide how the data is going to be managed and governed and then start collecting it," says Bob Benstead, director of public sector and utilities for Infor. "This way, the solution has the information it needs from the beginning and staff don't have to work backward."

Caltrans worked with Infor and AWS to define the critical data required to support a secure, digital permitting experience and design a cloud-based interface that could scale to high application volumes.

"Infor and AWS provide solutions to transform and secure processes for DOT across finance, supply management, assets and public portals," says Josh Whitworth, vice president for Infor public sector.

By enabling online submission and self-service access, CEPS reduces the need for in-person visits while maintaining strong security and access controls.

"The right cloud-based platform will put the correct data into the system while still ensuring identity and access control elements," says Jonathan Hatmaker, global alliances senior manager at AWS. "That guarantees the right people are accessing the information they need."

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>
> — **Jonathan Hatmaker,** Global Alliances Senior Manager, AWS

For Caltrans, standardized digital intake ensures consistent, secure data capture from the start. It reduces back-and-forth with applicants and improves visibility into who is requesting access to the roadway.

Savings and Safety Through Data

Caltrans teams can easily pull data from IMMS to get a holistic view of the roadway network. The department has used this data to drive substantial cost recovery and operational savings. As of publication in March 2026, Caltrans has recovered more than $38 million for incident records that occurred and were created in fiscal year 2025.

With maintenance work and incident response captured as part of the same operational workflow, Caltrans has gained a built-in record of events without added administrative effort. Details such as time spent, resources deployed and assets impacted are documented as work occurs, rather than reconstructed later. This approach simplifies cost recovery and strengthens accountability.

By implementing online permitting and automating workflows, staff have saved valuable time, too. Tasks that once took hours are now automated, allowing teams to focus on other mission-critical work with fewer interruptions.

“Through data analysis, we can see we are getting a lot of accidents at a certain intersection or a particular guardrail is always getting damaged,” Junkovic says.

As Caltrans continues to optimize its processes andengage data analytics, AI could play a key role in enhancing efficiency, cost savings and security. For example, AI chatbots can answer frequent questions from the public to lighten the load on staff.

“Can we reduce the amount of time and money it takes to do something that we know must happen? That’s the value of AI,” Hatmaker says.

For any of these AI technologies to work, the first step is having clean, accurate data. By unifying operations in a single solution and using data to identify patterns and inform decisions, Caltrans has built a strong foundation for AI.

Best Practices

Start small. Departments don’t need to make sweeping changes all at once. Start with one particular challenge or process to demonstrate how the new technology can lead to improvements. An incremental rollout with noticeable benefits will help generate support from staff.

Engage users from the start. When implementing any new system, bring in staff who will be using the technology to ask for their suggestions and feedback. Those in the field have the most knowledge of what will and won’t work. Their ideas can enhance the usability of the system.

Find the right partners. Work with an experienced vendor who can build a solution with your team’s input. Make sure you collaborate with someone who understands your compliance standards and security needs.

Enabling Future Innovation

In modernizing its maintenance and permitting operations, Caltrans demonstrates how transportation agencies can move from fragmented processes to a unified, data-driven approach.

By integrating systems, improving visibility and prioritizing secure digital access, the department has enhanced efficiency and positioned itself to better serve the public.

Just as importantly, Caltrans has built a scalable foundation for future innovation, where advanced analytics and AI can support long-term infrastructure resilience.

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1. All quotes from webinars.govtech.com/How-DOTs-and-Transit-Authorities-Are-Driving-Efficiency-with-Cloud-Based-Solutions-143649.html

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