

Achieving the mission: State and local infrastructure and transportation

Improve safety and reduce costs through faster processes with Red Hat

Red Hat solutions for state and local government

• Red Hat Integration:

Red Hat Runtimes, Red Hat 3scale API Management, Red Hat Fuse, and Red Hat AMQ

• Enterprise automation:

Red Hat Ansible® Automation Platform and Red Hat Process Automation Manager

• Cloud-native development:

Red Hat OpenShift®, the enterprise-ready Kubernetes container platform

Why Red Hat?

• Increased security:

Our solutions meet stringent federal, state, and local security requirements.

• Reduced costs:

Our subscriptions can cost less than proprietary software licenses and support contracts.

• Partner ecosystem:

You can work with our extensive network.

• Cultural transformation:

Culture is as important as technology to get the most value from open source.

Infrastructure and transportation agency challenges

State and local government infrastructure and transportation organizations face urgent challenges, including:

- **Aging infrastructure.** Massive new construction and repair projects are straining legacy project management systems built in the previous century. Aging assets like railway cars need more frequent inspections – beyond what inspectors can accomplish with clipboards.
- **Rising citizen expectations.** Citizens expect tracking a train's location or reporting a pothole to be as easy as private sector services like hailing a ride.
- **Resource constraints.** While expectations are growing, budgets are not. In addition, long-time IT employees are retiring, and their potential replacements are looking for employers with modern IT tools and processes.
- **Faster project timelines.** To be responsive to new agency and citizen needs, software development timelines need to shrink from years or months to weeks or days.

IT trends in infrastructure and transportation

Leading infrastructure and transportation agencies are using modern IT tools and processes to meet goals for safety, service, agility, and cost containment. Examples include:

- **Application modernization.** Departments of transportation (DOTs) have separate legacy applications for activities such as permitting, bid submission, and issues management. Adapting the applications for new requirements took months or years. Today, these departments are in the midst of multiyear initiatives to modernize applications, recognizing the importance of refactoring them into reusable containers to speed up multistep processes like permitting. Payoffs include faster response to changing needs, better user experiences, and greater stability.
- **Automated case management.** Whether a citizen reports a pothole or a construction company submits a bid, separated systems increase work and delay action. Automating processes and bringing together data from multiple back-end systems improves government efficiency and frees up staff to work on exceptions. A citizen who submits an address change to a department of motor vehicles (DMV), for example, can get a reminder about outstanding parking tickets at the same time.
- **Smart cities.** Using [Internet of Things \(IoT\)](#) sensors to monitor factors such as traffic, bridge infrastructure, air quality, bus location, and rail car wear helps cities improve safety, increase service levels, and extend asset life with preventive maintenance. Innovations like edge computing and 5G make it easier to implement smart cities programs.



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**Transportation IT:
A new look**

- **Cloud adoption:** The mission is delivering safe, efficient transportation infrastructure and services – not troubleshooting IT failures. Major public clouds now provide security and performance as good as or better than private datacenters. And moving development and application hosting to the cloud helps to accelerate innovation and control costs.
- **Consolidation:** Infrastructure and transportation teams are taking a hard look at their application portfolios, seeking opportunities to consolidate to reduce server, application, and licensing costs.
- **Automation:** Automating routine tasks like virtual local area network (VLAN) management and server patching helps government departments attract and retain talented staff. Automation frees staff members to focus on the activities that attracted them to public service.
- **Cost cutting:** Cloud migration, consolidation, and automation are helping government IT teams deliver more and better services – for the same or lower costs.

Solutions: Red Hat Integration and Red Hat Process Automation Manager

Infrastructure and transportation agencies can build a hub for better, lower-cost services with [Red Hat® Integration](#), a comprehensive set of technologies to connect different departments' applications and data – no matter where they are hosted. Red Hat Integration helps these agencies avoid vendor lock-in because it is built on open source software. You can deploy it on-premise or in a public cloud – on bare metal, on virtual machines, or in containers – and switch to another cloud whenever it makes sense.

[Red Hat Process Automation Manager](#) provides the foundation for initiatives from congestion pricing to preventive maintenance, allowing agencies to develop cloud-based applications to automate business decisions and processes.

Red Hat in action: State government Transportation Authority

Challenge: Alarmed by major safety incidents and decreasing ridership, the state governor declared a state of emergency for its Transportation Authority. One problem was breakdowns and delays caused by aging infrastructure, including cars, switches, and computer systems. The Transportation Authority's plans to increase inspection frequency were hampered by an archaic, paper-based system. Inspectors hand-wrote their findings and submitted a carbon copy to another team that typed the findings into a database. Inspectors were also slowed by having to locate assets in tunnels and backrooms.

Solution: Red Hat built a modern, mobile solution for asset management. Inspectors traded in their clipboards for a tablet they use to pull up work orders, locate assets via GPS, take photos and measurements, and tick off inspection tasks on the appropriate checklists – all with security. The app integrates with dozens of the Transportation Authority's back-end systems, including asset management databases, financial systems, and mainframes. Commuters can download a free app to see train and subway car location in real time, giving them more confidence in public transportation. Red Hat manages the solution for the Transportation Authority and is currently migrating it to the cloud.

Benefits: Within 2 years, on-time performance had climbed from a low of 58% to 82%. Weekday major incidents decreased by 27%, and weekday train delays decreased by 46%. Safety improved because of more frequent inspections and faster mean time to repair (MTTR). And by engaging Red Hat to manage the solution, the Transportation Authority avoided the expense of hiring or training.

About Red Hat

Red Hat is the world's leading provider of enterprise open source software solutions, using a community-powered approach to deliver reliable and high-performing Linux, hybrid cloud, container, and Kubernetes technologies. Red Hat helps customers integrate new and existing IT applications, develop cloud-native applications, standardize on our industry-leading operating system, and automate, secure, and manage complex environments. Award-winning support, training, and consulting services make Red Hat a trusted adviser to the Fortune 500. As a strategic partner to cloud providers, system integrators, application vendors, customers, and open source communities, Red Hat can help organizations prepare for the digital future.



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