

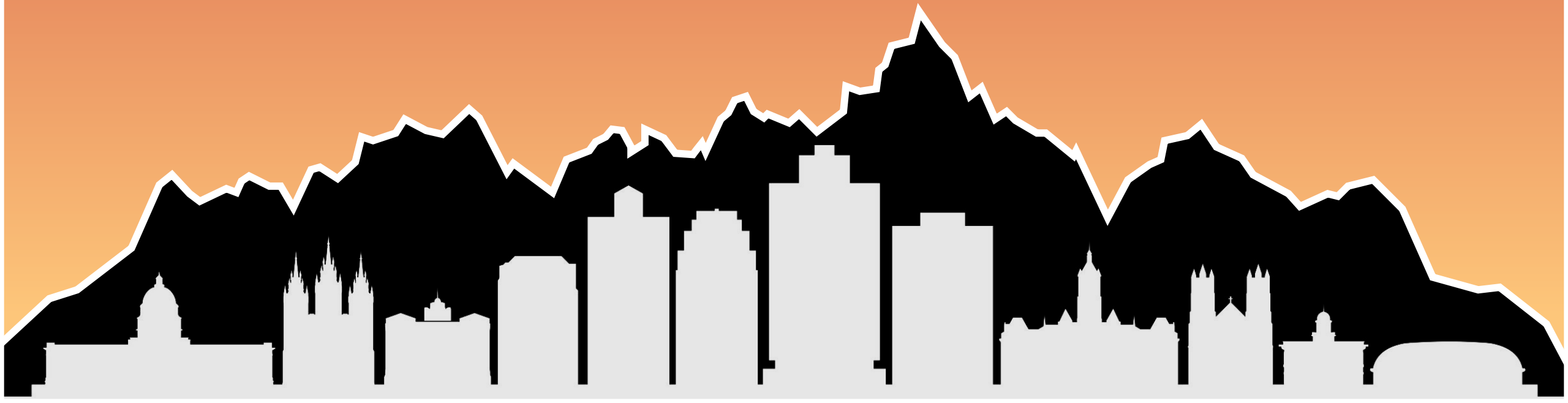


TRAINFO

Cutting Rail Crossing Delays

*How Salt Lake City reduced vehicle wait times by nearly 30% with
TRAINFO's Rail Crossing Information System*

Case Study



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The Challenge

Salt Lake City sits at the heart of Utah's rail network, where more than **70 at-grade rail crossings** intersect with busy commuter routes every day. These crossings are activated more than **2,800 times daily**, delaying over **100,000 vehicles** and causing more than **2,000 cumulative hours of traffic delay** each day.

But the problem goes far beyond frustration for drivers. In the past five years, the city has recorded **11 rail-related accidents**, including one fatality. First responders — police, fire, and EMS — often find themselves stuck at blocked crossings, losing precious minutes on their way to emergencies.

With the city's population growing and rail activity increasing, officials knew that simply "living with" the problem was no longer an option. Salt Lake City needed an innovative solution that could improve safety, reduce congestion, and strengthen its position as a leader in smart mobility.

Community Voices

"The city has long acknowledged the burden rail crossings place on drivers, and change is on the horizon." — **Salt Lake Tribune**

"We have hundreds of stories, even stories about people losing their jobs or being late to work or paying extra fees to child care or even giving birth waiting for the trains. We know the impact is huge. Those that live on the west side know how big it is."
— **Fox 13 Salt Lake City**



70

Rail
Crossings



2,800

Crossing
Activations Daily



11

Accidents
in 5 Years

The Solution

Instead of relying on costly infrastructure projects like overpasses or underpasses, Salt Lake City chose to implement an innovative, technology-driven approach: **TRAINFO's Rail Crossing Information System (RXIS).**

The system combines real-time train detection, predictive analytics, and roadside communication tools to keep drivers informed before they encounter a blocked crossing. By sharing accurate, actionable information, the city aimed to reduce congestion, improve safety, and give first responders a faster path around delays.

TRAINFO's deployment in Salt Lake City focused on five of the city's busiest crossings: 1000 W, 900 W, 800 W, 600 W, and 200 S. At each of these locations, solar-powered sensors were installed to detect and classify train movements. **The system then pushed predictive information to Dynamic Message Signs (DMS), giving drivers up to two minutes' notice of an approaching train and suggested alternate routes.**

The system's design also ensured city-wide benefits: Salt Lake City's Transportation Division could access real-time rail data through TRAINFO's secure portal or integrate it into existing platforms such as traffic management centers, emergency dispatch systems, and regional planning tools.



Five (5) solar-powered train sensors were installed off rail ROW and within 100 ft of each crossing. Sensors included acoustic detection and video cameras.

Installation poles included dedicated standalone poles (shown), utility poles, and light standards.



Two (2) solar-powered roadside Dynamic Message Signs were deployed to alert drivers about blocked and occupied crossings.

These signs provided up to 2 minutes' lead time to enable drivers to re-route.

Information is also available for sharing across agencies via TRAINFO's portal and APIs.

Outcomes & Impact

Within weeks of going live, Salt Lake City saw measurable results. Drivers approaching the 900 W crossing — one of the city's busiest and most problematic — were no longer caught off guard by blocked tracks. Instead, they received accurate predictions and route guidance, helping them avoid long waits and risky maneuvers.

For city officials, the project demonstrated that predictive technology could succeed where traditional approaches fall short: reducing congestion, improving safety, and supporting smarter mobility planning.

Salt Lake City officials noted that the system not only met, but exceeded expectations. The project validated TRAINFO's Rail Crossing Information System as a reliable, scalable solution for addressing rail-related traffic congestion and safety risks.

• Train sensor performance



Train detection accuracy: **100%**



Arrival prediction accuracy: **94%**



Duration prediction accuracy: **93%**

Sign performance



**29% reduction in
vehicles impacted
by trains**

*Average number of vehicles impacted per day
before sign (745) and after (528)*

Lessons Learned

Salt Lake City's deployment confirmed that a Rail Crossing Information System (RXIS) is nearly plug-and-play. Still, a few practical considerations helped the city maximize value and ensure a smooth rollout:

PLAN AHEAD FOR DMS INSTALLATION. DMS boards are straightforward to operate but do require specialized equipment for mounting and power hook-up. Early coordination avoided installation delays.

COMMUNICATE CLEARLY AT GO-LIVE. A short campaign on social media and city channels ensured drivers understood what the roadside signs meant and how to respond.

KEEP SPARE PARTS ON HAND. A damaged sensor pole shortly after installation reinforced the benefit of having a spare kit ready for quick replacement.

CHOOSE PROCUREMENT THAT SUPPORTS GROWTH. Sole-source justification was an option given the specialized nature of the solution. Structuring the agreement as a **price list** rather than a one-time project gave the city flexibility to expand quickly.



Why It Matters

Salt Lake City's success is bigger than shorter waits at the tracks. By embracing predictive technology at rail crossings, the city demonstrated how innovation can deliver real impact across multiple fronts.

Salt Lake City validated that Rail Crossing Information Systems are not just a promising concept — they are a **proven, cost-effective, and scalable solution** for safer, more efficient mobility.



Congestion Relief

Drivers spend less time idling at crossings, cutting delays by nearly a third and improving travel time reliability across the network.



Public Safety

With fewer risky maneuvers around active crossings and faster routing for first responders, the system contributes directly to saving lives.



Cost-Effectiveness

Traditional grade separations can cost tens of millions per crossing and take years to complete. By contrast, Salt Lake City proved that RXIS offers a scalable solution at a fraction of the cost.



Environmental Benefits

Reducing idling near crossings lowers fuel use and emissions, aligning with Salt Lake City's broader sustainability goals.



Smart City Leadership

This project showcases how modern technology — predictive analytics, IoT devices, and integrated data platforms — can transform infrastructure. Salt Lake City now serves as a model for cities nationwide facing similar rail-related challenges.

Next Steps

This project is just the beginning. With the system validated, the city is already exploring ways to expand and integrate RXIS more broadly:

Additional Crossings

Deploying at five new sites to extend the benefits of reduced congestion and improved safety.

911 Integration

Delivering real-time crossing status data directly to emergency dispatchers to optimize routing and response times.

Trespass Analysis

Using TRAINFO's mobility analytics to quantify pedestrian and vehicle interactions at crossings, supporting future safety investments.

Regional Collaboration

Leveraging TRAINFO's county-wide license to share data with surrounding agencies, enabling coordinated planning across the Salt Lake Valley.

The Big Picture

Salt Lake City's proactive approach creates a blueprint for other cities: start small, validate results, then scale across the network. With RXIS, cities can move from isolated pilots to city-wide impact in months, not years.

Conclusion

Salt Lake City's deployment shows what's possible when technology is applied to an old problem in a new way. By implementing TRAINFO's Rail Crossing Information System (RXIS), the city reduced congestion, improved safety, and gave first responders back valuable time — all without the massive cost or disruption of traditional grade separation projects.

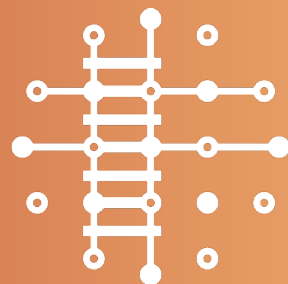
The results are clear: RXIS works. It's accurate, scalable, and nearly plug-and-play. Just as important, it positions cities to lead on smart mobility and sustainability initiatives while addressing one of the most visible sources of frustration for residents.

Ready to Rethink Rail Crossings?

Discover how TRAINFO's proven solution can help your city cut delays, improve safety, and move closer to its smart mobility goals.

👉 [Visit trainfo.ca](https://trainfo.ca) or contact us at contact@trainfo.ca





TRAINFO

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