

How to Implement a Robust Network Solution for Intelligent Traffic Systems

SOLUTION BRIEF

Around the globe, cities and municipalities are digitizing traffic management. They're adopting next-generation **intelligent traffic system (ITS)** technologies to offer end-to-end connectivity, real-time traffic monitoring, advanced analytics, automated tolling and more.

In fact, the estimated global investment in digital traffic and tolling systems is on course to top \$20 billion by 2025.

How can you navigate the ITS transition and avoid disruptions?

Belden understands the complexities facing today's transportation planners and managers. A trusted technology solutions partner for decades, we provide vendor-agnostic networks and connectivity to power your next-generation traffic and tolling systems.

*Source: Global Insight, International Transport Forum, Moody's Analytics, National Accounts, Kapsch annual reports, INRIX, Gartner, MarketsandMarkets, expert interviews

Approaching Digital Transformation Holistically

By investing in a robust, secure and scalable network to meet your current and future demands, you gain the best possible outcomes and most profitable return on investment.

To help you work holistically, Belden has mapped out four major areas in which to focus your design to ensure the successful connection of your ITS.

Element #1

Connected Road Infrastructure

Improve the efficiency and safety of travel through digitization.

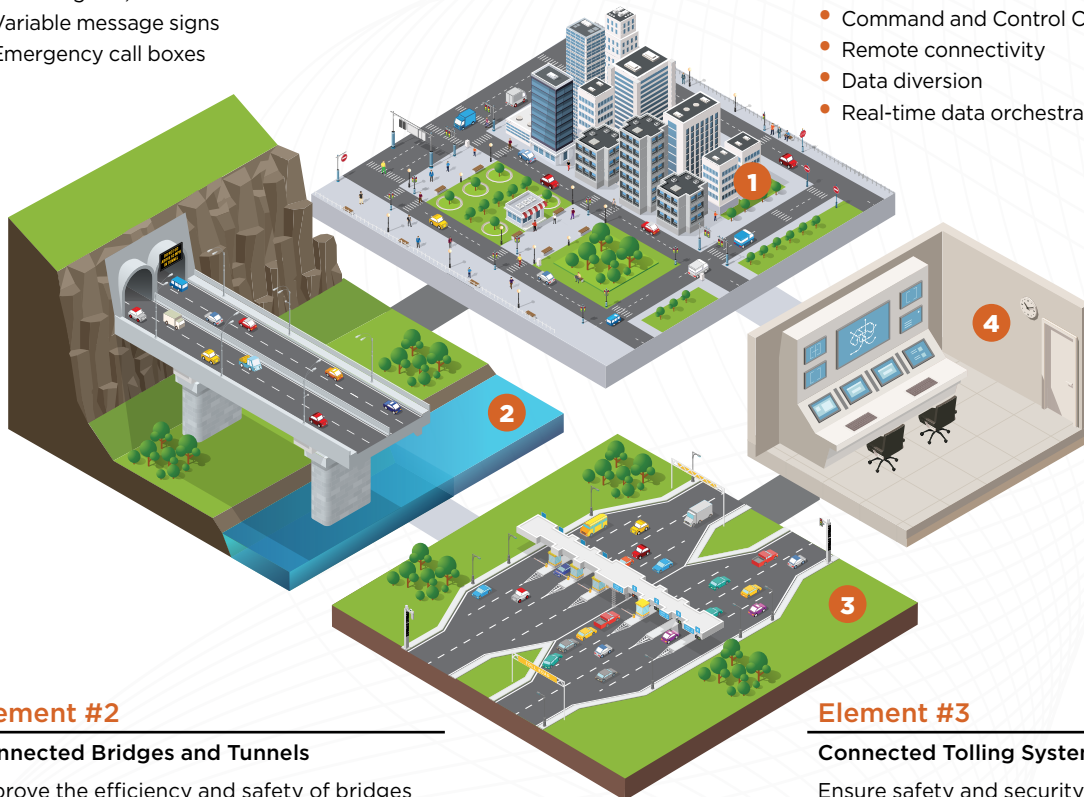
- Sensor networking
- Traffic signals, controllers and cabinets
- Variable message signs
- Emergency call boxes

Element #4

Connected Backbone and Traffic Control Center Network

Create a backbone for the operational technology (OT) network.

- Area of operation (AO) interconnections
- Command and Control Center
- Remote connectivity
- Data diversion
- Real-time data orchestration



Element #2

Connected Bridges and Tunnels

Improve the efficiency and safety of bridges and tunnels.

- Emergency call boxes
- Variable message signs
- Sensors
- Environment conditioning
- Hazards detection
- AI-based surveillance

Element #3

Connected Tolling Systems

Ensure safety and security.

- Emergency call boxes
- Variable message signs
- Sensors
- Environment conditioning
- Hazards detection
- AI-based surveillance

A critical step in moving forward is implementing a robust, dynamic network that provides the performance, bandwidth, redundancy and security to allow real-time traffic monitoring. Only then can you reduce network latency and prevent unwanted downtimes from interfering with signaling and tolling operations.

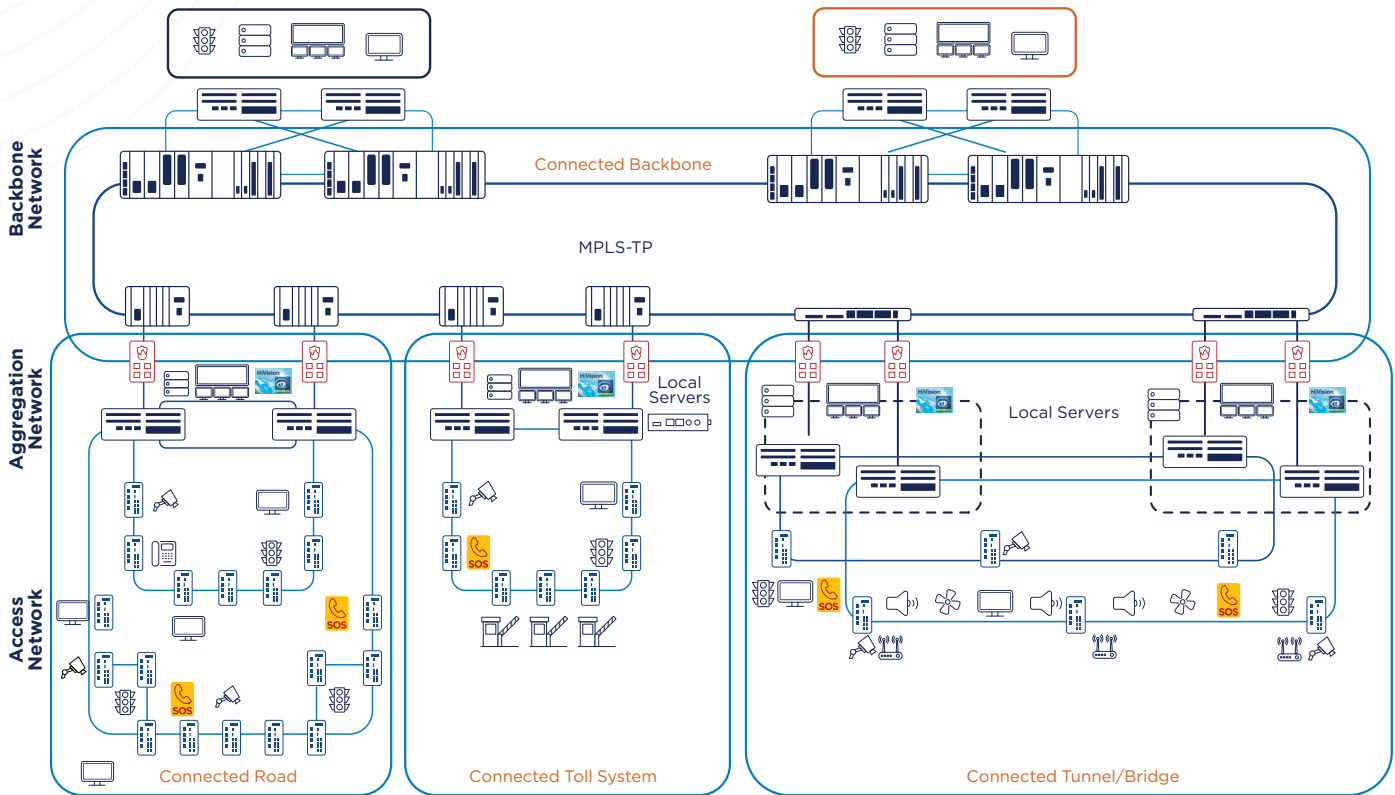
Experts for All Your ITS Networking Needs

The promise ITS offers—safer, more efficient road travel—is clear. But cities and municipalities like yours can only unlock these benefits with a robust, flexible and future-ready network. In the meantime, you can't abandon legacy infrastructure investments or shut down traffic operations to upgrade technologies.

We can help you maintain continuity of operations and support your ongoing digitization objectives as you prepare for the future of connected and autonomous vehicles.

As an end-to-end network solution provider, Belden guides you to the solutions you need to move ahead on your digitization journey. We start by understanding your unique requirements, then we build a step-by-step plan to meet your strategic traffic control and tolling goals. You can rely on us to bring the right expertise, products and partners to build seamless, efficient networks for real-time traffic flow, incident monitoring and automation digital tolling.

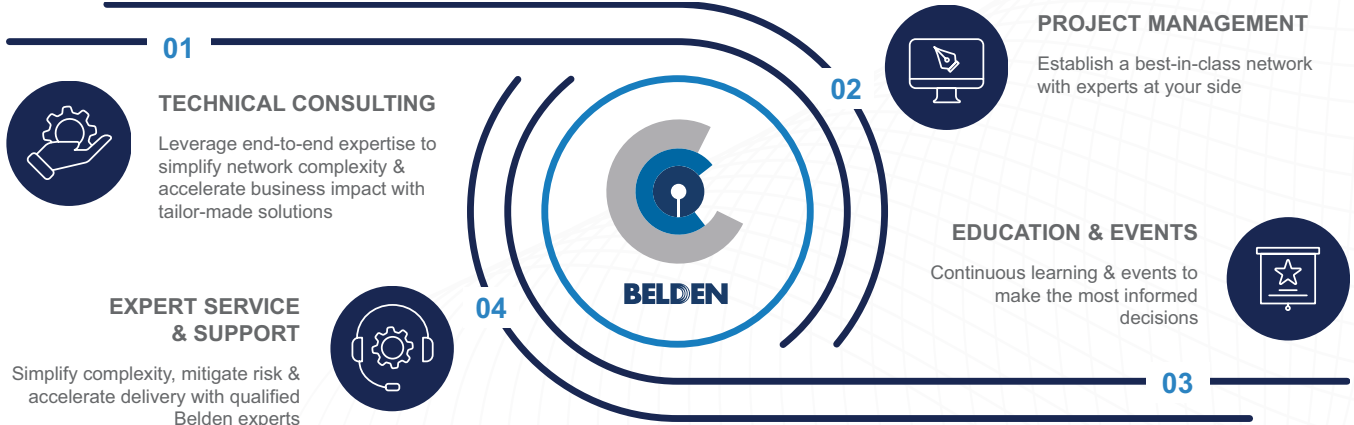
Here is an idea of what a fully connected intelligent traffic systems network could look like:



With Belden experts at your side throughout your digitization journey, you can see your unique automation plans come to life by combining our extensive network portfolio with third-party tools and services. Discover the complete ITS bill of materials and customize your solution with our experts.

Global Customer Innovation Centers

Belden's Customer Innovation Centers (CICs) serve your needs throughout the solution development lifecycle. These hubs - strategically located to serve regions throughout the world - offer access to best-in-class capabilities, including the opportunity to run proof of concepts (PoCs) in our validation lab.



Our Experts at Your Side

Designing the right solution for your business needs is not an easy task, so Belden provides direct access to our experts.

Solution Architect



- Deep technical knowledge of network architectures
- Develop, design, and validate best solutions tailored to the complexity of each customer's unique business challenge

Digital Automation Consultant



- Industry expertise with deep networking know-how
- Lead process, workflows, and data assessments to identify digital transformation opportunities and calculate potential value of network solutions for the customer

Solution Consultant



- Deep technical knowledge of applications and industries
- Guide the customer in their digital transformation journey, conducting industrial network audits and positioning the ideal solutions

Service Engineer



- Deep technical knowledge of products and technologies
- Conduct trainings, test and commission networks
- Lead network assessments and deliver high quality pre-sales and post-sales technical support



About Belden

Belden Inc. delivers the infrastructure that makes the digital journey simpler, smarter and secure. We're moving beyond connectivity, from what we make to what we make possible through a performance-driven portfolio, forward-thinking expertise and purpose-built solutions. With a legacy of quality and reliability spanning 120-plus years, we have a strong foundation to continue building the future. We are headquartered in St. Louis and have manufacturing capabilities in North America, Europe, Asia, and Africa.

Contact Us

Email

emea.cic@belden.com

apac.cic@belden.com

americas.cic@belden.com

www.belden.com/CIC

[in linkedin.com/company/beldeninc](https://www.linkedin.com/company/beldeninc)

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