ALCEA
ASSA ABLOY



securing Intelligent Transportation Systems (ITS) with NEMA TS 40008 standards.

strengthen ITS infrastructure security with ALCEA 75481 Traffic Enclosure Lock.

ALCEA
ASSA ABLOY



strengthen ITS infrastructure security as a frontline defense against malicious attacks.

As our nation's transportation networks become increasingly digital and interconnected, safeguarding critical infrastructure has never been more essential-or more complex. Unmanned infrastructure, including cabinets, enclosures, and other unattended sites, houses equipment that controls and connects to vital networks. Across the country, hundreds of thousands of these enclosures secure entry points to intelligent devices and operational technology systems that are central to daily life, health, and safety.

do you know
who has access to your ITS cabinets?

For many agencies, there's an urgent question: Do you know who has access to your ITS cabinets, and are they secure right now? Most ITS cabinets today are still protected with easily duplicated, generic physical keys. This leaves thousands of critical infrastructure points open to unauthorized entry, risking everything from traffic disruptions to network-wide breaches in traffic controller and camera feeds. Many of these cabinets maintain active connections to broader transportation networks, meaning a single breach could compromise both local and regional traffic management systems.

The need for real-time, managed, and monitored access to ITS infrastructure is essential to safeguard against potential threats. Recognizing these risks, the National Electrical Manufacturers Association (NEMA) has developed the **TS 40008 Cyber and Physical Security Standards** to provide guidance for securing ITS infrastructure.

These standards outline the necessary protections against unauthorized access and cyber threats, emphasizing comprehensive control and monitoring.

purpose and scope.

The primary purpose of NEMA TS 40008 is to allow agencies and other transportation infrastructure owners/operators to implement cyber and physical security measures for the ITS portion of surface transportation systems.

It provides guidance and establishes minimum performance baselines for securing ITS infrastructure.

NEMA
National Electrical Manufacturers Association

- This standard was published on March 27, 2024.
- Implement cyber- and physical-security for the (ITS)
- Check for more information: nema.org



key features of NEMA TS 40008.

Comprehensive Approach

The standard addresses both cyber and physical security aspects of ITS, recognizing the interconnected nature of modern transportation systems.

Guidance for Implementation

It offers practical guidelines for transportation agencies and infrastructure owners to enhance the security of their ITS deployments.



Performance Baselines

NEMA TS 40008 sets minimum performance standards, ensuring a consistent level of security across different ITS implementations.

By following this standard, organizations can improve their security posture and better protect critical transportation infrastructure from both cyber and physical threats.

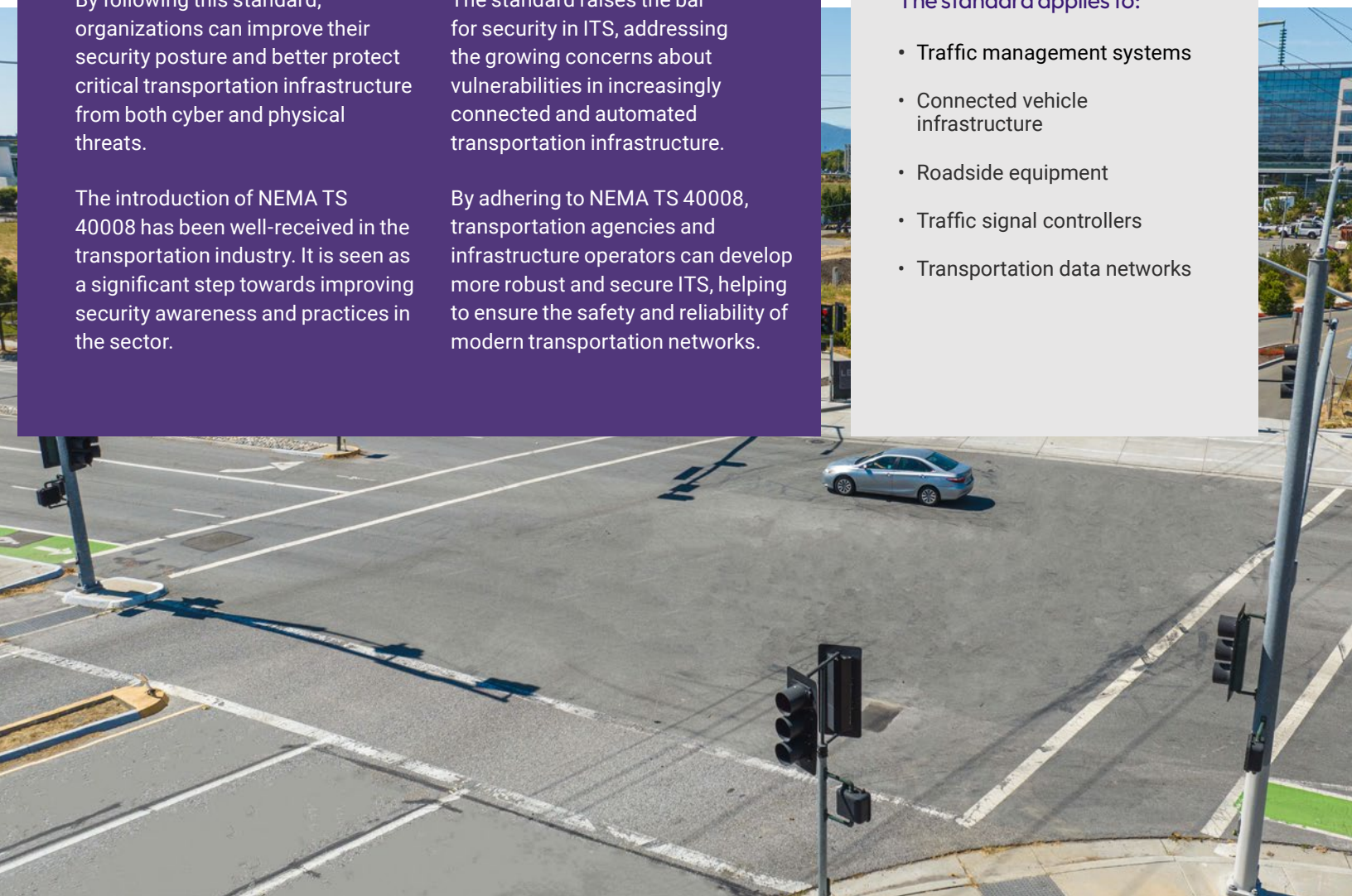
The introduction of NEMA TS 40008 has been well-received in the transportation industry. It is seen as a significant step towards improving security awareness and practices in the sector.

The standard raises the bar for security in ITS, addressing the growing concerns about vulnerabilities in increasingly connected and automated transportation infrastructure.

By adhering to NEMA TS 40008, transportation agencies and infrastructure operators can develop more robust and secure ITS, helping to ensure the safety and reliability of modern transportation networks.

The standard applies to:

- Traffic management systems
- Connected vehicle infrastructure
- Roadside equipment
- Traffic signal controllers
- Transportation data networks





introducing the 75481 Traffic Enclosure Lock: a comprehensive security solution.

The ALCEA 75481 Traffic Enclosure Lock offers a robust solution that directly aligns with NEMA TS 40008 standards, enabling agencies to upgrade their ITS cabinets to meet both physical and cyber security requirements.

Designed as a hybrid solution, this lock can be a drop-in replacement for existing cabinets, offering both mechanical and electromechanical components for optimal protection.

ALCEA provides you with both high-security mechanical and high-security electronic locks powered by ABLOY technology to protect your critical infrastructure.



Mechanical Security

Featuring a high-security ABLOY® disc cylinder, the 75481 lock provides durable physical protection that's difficult to bypass, aligning with best practices in physical security.



Electromechanical CLIQ Cylinders

CLIQ technology takes security further by providing real-time access control, key tracking, and remote access management through ABLOY's CLIQ software. This system allows managers to authorize, revoke, and audit access as needed, reinforcing NEMA TS 40008's guidelines for controlled and traceable access.

securing ITS cabinets with the 75481 Traffic Enclosure Lock: key benefits.

Preventing Unauthorized Access and Protecting Network Integrity

By integrating CLIQ electromechanical cylinders, agencies can track and control access to each cabinet, preventing unauthorized entry. CLIQ software's audit trail capabilities allow for a full review of all access events, significantly reducing the risk of tampering or breach in connected network systems.

Real-Time Access Control and Management

The CLIQ software platform supports remote authorization and real-time monitoring, ensuring that only authorized personnel can enter ITS cabinets. This capability aligns with NEMA TS 40008's standards by providing detailed, accountable access logs and the ability to update permissions as needed.

Cost-Effective Security Solution

The hybrid design of the 75481 lock allows local DOTs or municipalities to selectively deploy electronic locks on high-priority cabinets while utilizing mechanical locks elsewhere. By equipping only the most critical 20% of cabinets with electromechanical locks, the system balances budgetary concerns with security needs, potentially reducing total upgrade costs by as much as 40% compared to a fully electronic solution.

protecting critical infrastructure with the 75481 Traffic Enclosure Lock.

As ITS infrastructure continues to expand, securing these systems with reliable, managed access controls is critical to public safety. The 75481 Traffic Enclosure Lock directly addresses the vulnerabilities outlined by NEMA TS 40008, offering an adaptable, high-security solution that integrates seamlessly into existing systems. With real-time control, audit trails, and robust physical security, the 75481 lock empowers transportation agencies to take proactive steps in protecting one of our nation's most important networks.

(Below) The IT group for the City of San Jose's Department of Transportation







frequently asked questions about NEMA TS 40008 cyber and physical security standards.

1. What is the purpose of the NEMA TS40008 Standard?

The NEMA TS 40008 Standard (formerly NEMA TS8) provides comprehensive guidelines for securing ITS against cyber threats and physical breaches. It's designed to ensure that ITS cabinets and the sensitive equipment within them are protected against unauthorized access and cyber-attacks. The standard helps transportation agencies manage and monitor access to ITS infrastructure, ensuring resilient and secure traffic systems.

2. Who should follow the NEMA TS 40008 Standard?

The standard is intended for transportation agencies, city & public works planners, infrastructure managers, and anyone responsible for maintaining the security of roadside equipment, traffic control cabinets, and other connected infrastructure within the transportation systems sector. Compliance helps these stakeholders protect critical transportation assets and ensures the safety and reliability of traffic networks.

3. How does the NEMA TS 40008 Standard address cyber security?

The standard emphasizes both physical and cyber security measures. For cyber security, it specifies requirements for access control, accountability, and real-time monitoring. This includes using advanced locks and audit trails to manage access and ensure that only authorized personnel have access to ITS cabinets and their connected networks.

4. What types of locks are recommended under NEMA TS 40008?

NEMA TS40008 recommends using high-security locks that incorporate both physical and electronic features. Hybrid locks, like the 75481 Traffic Enclosure Lock with ABLOY CLIQ technology, meet these requirements by providing a combination of mechanical and electromechanical security. This dual-layered approach ensures robust physical protection while enabling digital tracking and control.

5. Why is accountability important in ITS security?

Accountability is crucial because it allows transportation agencies to monitor who has accessed ITS cabinets and when. This traceability is essential for identifying potential security breaches and preventing unauthorized access to critical infrastructure. Through audit trails and real-time access control, agencies can maintain a secure and resilient ITS network.

6. What are the benefits of using a hybrid locking solution to comply with NEMA TS 40008?

Hybrid locking solutions like the 75481 Traffic Enclosure Lock offer flexibility and cost-efficiency by enabling agencies to mix mechanical and electronic locks in their ITS infrastructure. This approach allows for targeted security—using electronic locks for high-priority cabinets and mechanical locks for others—helping agencies achieve compliance while optimizing costs.

7. How does NEMA TS 40008 improve the security of ITS?

By setting standards for both physical and cyber security, NEMA TS 40008 enhances the protection of ITS cabinets, reducing vulnerabilities to unauthorized access and cyber-attacks. The standard provides a framework for agencies to secure access points effectively, preventing tampering, unauthorized entry, and potential breaches in connected traffic systems.



Grand Prairie, Texas

> “Having control over who has access and when to our traffic cabinets was a major driver for this project.”
>
> *— Raul Perez, Grand Prairie’s ITS Specialist*

a security update deep in the heart of Texas.

Located between Dallas and Fort Worth, Texas, Grand Prairie is an important distribution hub. The Transportation Services and Mobility department for the city completed a substantial project to replace the locks on their ITS cabinets. ALCEA provided the most secure and integrated choice for a Traffic Locking Cabinet Solution with the 75481 series.

Grand Prairie installed 240 smart locks, 191 mechanical locks, and 20 Bluetooth locks. ALCEA is the only solution that integrates all these lock types, with access control and keys being tracked and managed by the CLIQ Web Manager software. The Hybrid solution makes the system more versatile and cost-effective, because higher-end locks are not necessary at every access point. The project will help the city adopt proactive cybersecurity measures.

Raul Perez, Grand Prairie’s ITS specialist, says “Having control over who has access and when to our traffic cabinets was a major driver for this project. ALCEA was the clear choice. Their product offered the advantage of securing all our enclosures with a single key, with efficiency and convenience. The expertise, customer service, and professionalism demonstrated by ALCEA added confidence.”

security gets stronger in a global innovation hub.

Known as the capital of Silicon Valley, San Jose is a large city with approximately 400 miles of city streets. A network penetration test showed San Jose needed greater protection from cybersecurity threats. The Department of Transportation for the city chose an ALCEA Traffic Locking Cabinet Solution to upgrade and harden the security for over 2,000 ITS cabinets.

The 75481 series traffic enclosure lock was chosen for its status as a versatile, Hybrid solution that enables secure access control efficiently. Both mechanical and electromechanical locks can be integrated into the system, with access control and keys tracked and managed by the CLIQ Web Manager software. The 75481 series drops right into the cabinet, installing in about ten minutes.

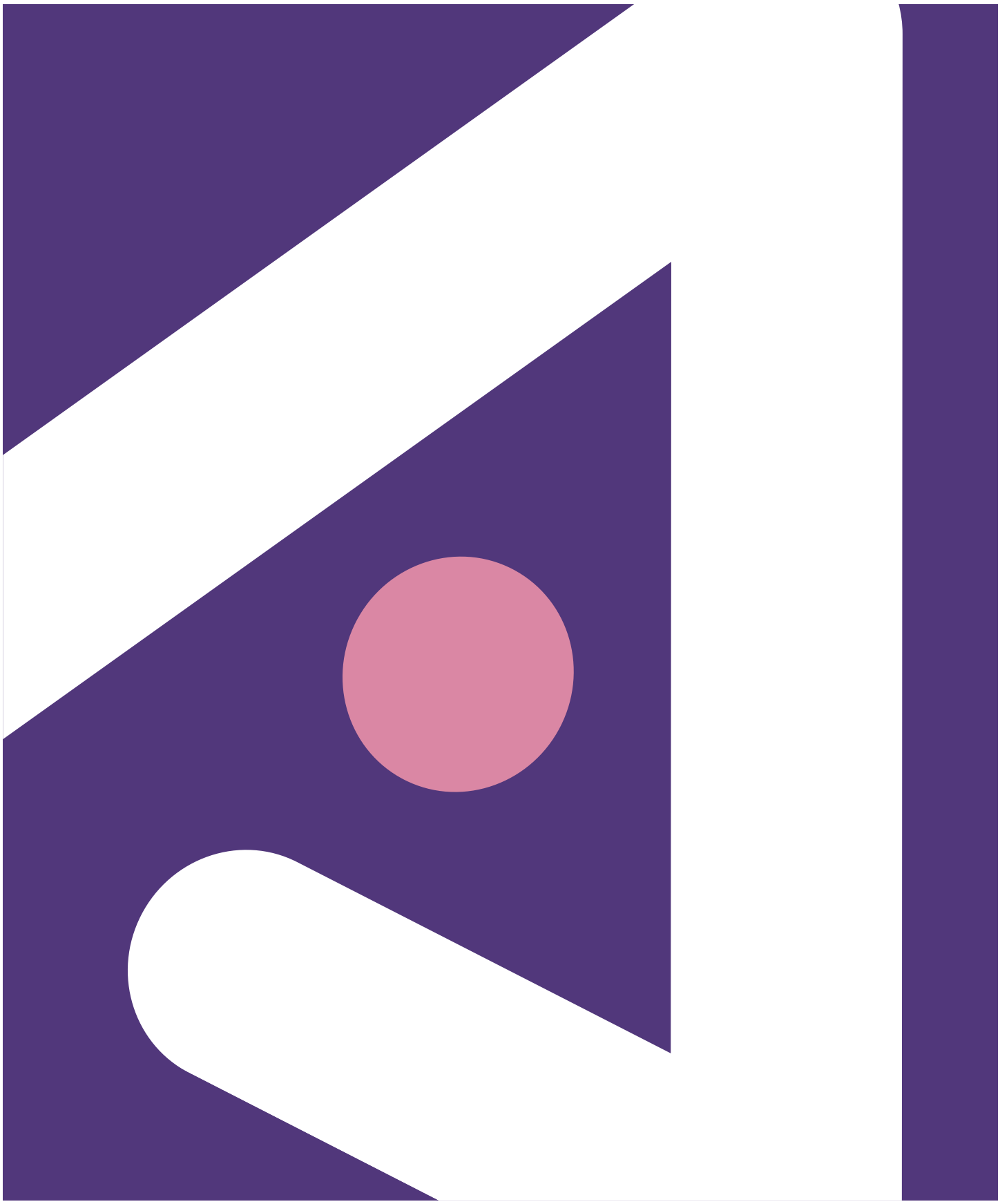
Darren Thai, Associate Engineer with the city's Department of Transportation, says "The installations are very easy to do. The web-based software is straightforward. Having the audit trail capability helps so we know exactly which cabinets users are accessing at a specific time. We now have more control over who has access to the cabinets with the ALCEA solution. We are definitely happy and impressed with how things have progressed."

San Jose, California

"The installations are very easy to do. It is a drop-in replacement for what we currently use, which was partly a selling point for this solution."

— Darren Thai, Associate Engineer with the City of San Jose's Department of Transportation





2024 copyright by ASSA ABLOY. All rights reserved. We reserve the right to make technical modifications. Version: ALCEA_WhitePaper_NEMA TS40008 | 2024 | whitepaper

ALCEA specializes in protecting critical infrastructure globally, including energy, water, telecom, transportation, mining, oil, and gas. We provide comprehensive security solutions tailored to your unique needs, from access control and intrusion detection to key and video management. Our experienced specialists deliver customized, digitalized solutions that enhance efficiency, ensure compliance, and offer peace of mind.

© 2024 ALCEA/ASSA ABLOY AB. All rights reserved. This publication is for informational purposes only, without representation or warranty of any kind and the details provided herein are subject to change without advance notice.

alceaglobal.com