Stockholm Public Transit Transforms Fare Validation, Savings Millions* With Integrated Ticketing Solutions From HID

Storstockholms Lokaltrafik, or "SL," serves as the public transport authority for Stockholm County, encompassing the capital city and 26 neighboring municipalities. Despite covering only 2% of Sweden's total area, this metropolitan region is home to more than 2 million people, accounting for about 20% of the nation's population and making it the most densely populated area in Sweden.

HID Products

- VAL100 ticket validator
- VAL150 platform validator
- TripTick™ 220 ticket reader

CHALLENGE: LEGACY SYSTEMS AND FINANCIAL STRAINS IN A MOBILE-FIRST WORLD

To achieve a seamless ticketing system that integrates contactless payment options throughout Stockholm's extensive transit network, SL recognized the need to substantially expand its existing ticketing infrastructure to include tram platforms, ferries and boats — a complete upgrade of its entire ticketing infrastructure.

The reliance on paper tickets and transit cards no longer met public expectations in a digitally advanced society that is increasingly embracing mobile apps. Specifically, SL faced several interconnected challenges:

- Eliminating paper tickets and offering a comprehensive digital ticketing solution
- Meeting the public demand for mobile ticketing and validation driven by the "app explosion"
- Increasing ridership by enabling contactless payments across all transport modes, a need accelerated by the pandemic
- Providing an easy and consistent ticket validation and payment experience throughout the entire transit network
- Ensuring hardware durability in Stockholm's harsh winter conditions

* Swedish Kronor

Compounding these technical requirements were significant financial pressures. The existing legacy system, with its closed architecture, made these essential upgrades prohibitively expensive. Meanwhile, fare evasion represented another significant challenge, with the transit authority losing millions of Swedish Kronor each year due to ticket duplication and unauthorized sharing through social media platforms.

The operational complexity added another layer of difficulty. SL needed to implement a consistent ticket validation experience across Stockholm's diverse transportation modes — spanning buses, ferries, metro gates and trams — while maintaining service continuity. This required running legacy and new systems in parallel during the transition period.

Finally, the human element presented its own challenges, as staff accustomed to the old system had to adapt to a complete replacement.

SOLUTION: AN INTEGRATED OPEN-ARCHITECTURE APPROACH FOR A CUSTOMIZED AND SEAMLESS EXPERIENCE

After conducting a rigorous public tender process, SL selected HID ticketing hardware as the foundation for their modernization initiative.

A critical factor in this decision was the open-architecture nature of HID's hardware solutions, which would allow SL's technical team to implement in-house software customizations such as screen content modifications and other adjustments to suit their specific operational requirements.

The implementation was comprehensive to ensure consistency in the validation experience and provide a seamless ecosystem across all transit touchpoints. It included:

- **Enhanced passenger convenience on buses —** VAL100 ticket validators were deployed across 2,600 buses, integrating TripTick barcode technology and delivering NFC/RFID and contactless payment (cEMV) functionality in a single point of presentation for tickets and travel passes — whether passengers present them on a smartcard, mobile phone or paper ticket
- **Reliable outdoor operations in extreme weather conditions —** The system deployed 140 of the VAL150 validator on ferries and 320 on tram platforms, featuring a waterproof design that withstands Stockholm's harsh temperatures while maintaining the same multi-format payment technology
- **Streamlined fare collection across metro stations —** The implementation installed TripTick 220 OEM barcode, NFC and cEMV ticket modules within 1,035 fare gates, and ticket machines in the Stockholm metro — enabling multi-format ticket reading throughout the system

Offering EMV Level 2 certification, as well as PCI and SRED compliance, the solution was carefully designed to operate in parallel with legacy infrastructure, allowing for a phased rollout that minimized service disruptions and provided time for both staff and passengers to adapt to the new system.

Throughout the implementation, HID's role evolved beyond that of a traditional equipment supplier. As a direct partner to the public transit authority, HID facilitated tight coordination between technical teams, ensuring that hardware deployments aligned perfectly with SL's software development timelines and operational requirements. This collaborative approach proved instrumental in addressing the complexity of modernizing such a diverse transportation network.

"Serving hundreds of thousands of passengers daily across multiple transit modes required a ticketing solution that could scale with our needs while providing a consistent experience for our riders. We chose HID for their multi-technology ticket validators for buses, ferries and gates, as well as their ability to run side-by-side with our legacy hardware, systems and networks. It was a real challenge for everyone involved to get that working, but it was one we overcame together."

Karin Harrius
Business System Administrator
Ticket Readers

HID

"The Stockholm SL deployment represents one of our most comprehensive transit implementations to date. Our open architecture is specifically designed for customers like SL, who need to stay future ready as new technologies and customer behaviors emerge. This project exemplifies what's possible when hardware and software work in harmony to deliver what they are set out to," said Tony Kington, Managing Director, Access-IS Business Unit, Biometric Identity Technologies at HID.

RESULT: OPERATIONAL SUCCESS AND REDUCED COSTS

The successful partnership between Stockholm SL and HID demonstrates how strategic implementation of advanced ticketing hardware can address immediate operational challenges as well as create a foundation for continuous improvement and innovation in public transit services.

HID's integrated ticketing solution delivered substantial and measurable benefits for SL, including:

- **Reduced fare evasion —** Decreased from 3.1% in 2019 to 3% in 2022 to a much lower 2.3% in 2023, translating to millions in recovered revenue
- **Improved ferry validation —** Ticket validation rates on ferries increased dramatically from 58% (November 2021) to 89% (March 2025)
- **Enhanced passenger experience —** Consistent validation interface across all transit modes increased user compliance and satisfaction
- **Future-proofed infrastructure —** Open architecture design enables ongoing adaptation to new technologies and passenger needs
- **Operational flexibility —** SL gained the ability to implement in-house customizations without dependency on vendor-specific systems
- **Seamless transition —** Parallel operation of legacy and new systems enabled service continuity during the complex, multi-modal deployment

Stockholm's partnership with HID transformed not just their ticketing system, but their entire approach to transit technology — proving that open-architecture solutions and collaborative implementation can deliver both immediate results and lasting value for public transportation networks. As urban populations continue to grow and passenger expectations evolve, public transit authorities can count on HID to build resilient, adaptable infrastructure that serves current needs and evolving passenger preferences.

hidglobal.com

North America: +1 512 776 9000 | Toll Free: 1 800 237 7769
Europe, Middle East, Africa: +353 91 506 900
Asia Pacific: +852 3160 9800 | Latin America: +52 55 9171 1108
For more global phone numbers click here

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