Public Transport

Solutions for a Smart, Safe and Sustainable Future

GUNNEBO®

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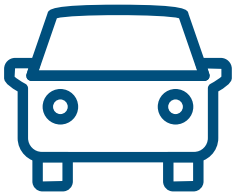
Introduction

When it comes to transport, people appear to be stuck between convenience and sustainability.

On the one hand, it's never been easier to hail a ride from A to B - thanks to ridesharing apps, like Uber. And there are more drivers on the road every year, too. According to the RAC, the total number of licensed vehicles has increased every year since the end of World War II, with the average growth at around **610,000 more cars** on the road every year.



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On the other hand, people are becoming more aware of their carbon footprint and want to do something about it. A study by the EPA found that a typical passenger vehicle emits about **4.6 metric tonnes of carbon dioxide** per year.

Public transport should be able to provide customers with a convenient, sustainable alternative to travelling by car, but certain solutions are needed to bring public transport up to a level that people will be happy with.

Above all else, public transport needs to achieve 3 goals:

1. It should be quick

2. It should be safe

3. It should be effective

But this is expected from customers, as a *minimum*. To truly meet customers' expectations of today, public transport also needs to take sustainability and the customer experience into account.

In this whitepaper, we're going to cover these topics and also take a look at some effective solutions (*and some conceptual ones!*) that can improve public transport to create a smarter, safer, more sustainable future for all.

The Importance of Sustainable Mobility

It's no secret that transportation is a huge contributor to greenhouse gas emissions. In fact, according to new UK government figures, transport has recently overtaken electricity as the most polluting sector. Of course, the majority of this pollution comes from passenger vehicles rather than public transport, but it highlights the importance of sustainable mobility for the future.

In addition to environmental sustainability, public transport also needs to remain sustainable in a productive way. According to Forbes, one of the top reasons people give up on public transport is the unreliability.

Let's take a look at some solutions that can combat this.

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Remote Connectivity Apps to Improve Sustainability

In the very near future, there will be remote connectivity apps that station managers can use to monitor a multitude of different devices, such as the automated fare collection gates.

Apps like this will help improve sustainability through health monitoring. By enabling instant status updates and notifications, staff will be able to ensure that gates are running at the optimum level.

And, in the case of any alarms, remote connectivity apps can notify users directly - wherever they are - instead of simply sounding an alarm at the site. Event logs will also allow users to reduce failure in the future by tracing back through past issues and ensuring they are not repeated.

This advanced health monitoring will ensure sustainability by improving the function of gates and helping to give them a longer lifespan.

Sustainability means reliability

Based on a technology that has already proven its effectiveness throughout the world, the design of the Gunnebo gates guarantees a particularly high MCBF and resists habitual abuse in a mass transit environment over time. The solution is designed to minimize maintenance costs and improve return on investment.

High MCBF means a reliable service, a trusted ROI for the operator and, most importantly, it brings trust to passengers who use the system.

Take a look at our field survey on all Gunnebo automatic fare collection gates:

- Nearly 23,000 gates over 10 years of warranty returns and spare parts sales
- MCBF figures in >20 million cycles
- MTBF figure for electronic board in excess of 280,000 hours

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The gate ergonomics and logic to improve passenger experience

Special attention is given to ergonomics and signaling to improve the user experience. This ensures better flow management, even at peak times, as well as minimizing unlawful acts. Gunnebo's solution will always take into account all user profiles. One example of how Gunnebo performs when we talk about gate ergonomics, are the pictograms, or the Inclined top lid, that improve the screen reading when the passenger is moving.

The gate ergonomics also mean a reduction of power consumption during high traffic hours, since gates will remain open between two or more authorized cycles. As a result, less open/close cycles means less power consumption and higher MCBF.

Finally, local transport authorities now aim to collaborate with technology suppliers that comply with ISO 14001 norms that specify the requirements for an environmental management system that the organization can use to enhance its environmental performance, which is the case with all Gunnebo Automatic Fare Collection gate factories.

The Customer Experience

The success of public transport doesn't depend on the fastest vehicles, the cheapest tickets, or the best timetables. It all depends on one thing: how happy the customers are.

The difficulty in this is that customers expect different things from a perfect experience. Some people prioritise feeling safe on public transport, while others find integration with technology to be paramount. To create the best customer experience, you need to appeal to everyone's needs.

Here are a couple of solutions that can help.

Metro Swing Gates

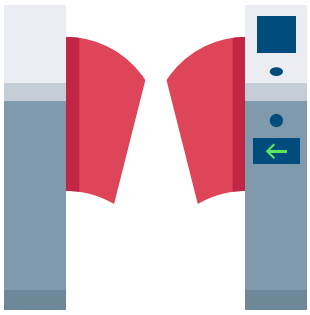
With a transparent design, **Metro Swing Gates** help customers feel secure with unobstructed visibility. The efficient barrier performance of the gates also increases customer satisfaction by minimizing delays, even during busy periods.

Metro Swing Gate

Another great gate for high-speed passenger flow is the **Metro Bi-Parting Gate.**

With a retractable flap that disappears into the cabinet when a passenger's ticket is authorised, the Metro Bi-Parting Gate can allow **up to 60 passages per minute!**

Both gates are also able to connect with contactless technology so that customers can just tap their smartphone or contactless bank card in place of a traditional paper ticket.



Metro Bi-Parting Gate

How remote connectivity apps can improve customer experience

Most frustrations that customers experience with public transport can be easily avoided with proper planning. Remote connectivity apps will assist station managers with this through the power of forecasting.

Forecasting can give insight into capacity need and potential bottlenecks, such as peak times of day and even peak times in the year, caused by special events.

Armed with analytics, station managers will have the power to adjust gate operation to suit the needs of customers. Remote connectivity apps could give information about flow rates, passages, lane availability, and even load distribution - so that users can see how the flow through is distributed across lanes and determine what can be done to improve this.

Users will also be able to access an instant screenshot of what's happening in the station in real time, plus look at historic data, to determine how to best improve flow-through and lane availability so that customers are not held back during peak times and always have an enjoyable experience.

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Revenue Collection

For most public transport companies, ticket payment is usually the only form of revenue collection. So fraud of any kind is extremely detrimental to the business.

Fortunately, there are solutions that can help to prevent fraud and improve revenue collection.

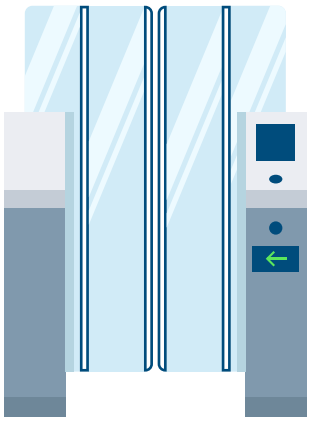
Metro Full Panel Gates

Metro Full Panel Gates (or MFPs) offer high security prevention through the use of tall, retractable glass panels which slide into the cabinet when a passenger's ticket is authorised.

This design allows for high-performance fraud detection without compromising on the user-friendly appearance.

The Solution is equipped with a detection system designed to prevent fraud and to secure Metro stations from unwanted access. The Gunnebo solution is typically designed to analyze users on the move with an algorithm based on Gunnebo's vast experience that makes it possible to manage a multitude of passage profiles.

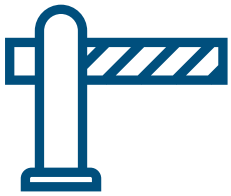
The built-in, sophisticated fraud detection algorithm has been tested in over 40 different scenarios, including wrong way direction and intrusions, with a success rate of **over 95%** even in complex scenarios.



Metro Full Panel Gate

Acting as a true physical barrier, the MFP gate effectively ensures the border between the Zone outside the station and the Safe Zone inside the station. Here are some of the most notable features:

- Default operating mode ‘Normally Closed‘ - The door is locked and closed. Upon receiving the validation signal from the validator, the glass panels open. If the door is used incorrectly, that is, if the traffic is incorrect or in a fraud situation, the panels are closed and the door is put in an alarm state.
- Optimized body length of 1915mm for early detection of fraud attempts
- 1800mm height fixed and mobile glass.
- Reduction of distances to avoid fraud attempts by passengers.
- Horizontal distance between glass panels less than 65mm
- Vertical distance between glass panels and floor less than 160 mm



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How Remote Connectivity Apps Can Improve Revenue Collection

By linking gates to remote connectivity apps, users will be able to create detailed fraud maps that can highlight locations and times with the highest fraud levels. This fraud pattern visualisation has the potential to go even further with location heatmaps and even video capture that could help identify fraudsters.

Apps like this will also help to prevent fraud in real time with alarms that trigger in different scenarios, for example if someone tailgates or tries to crawl under a barrier.

This will not only help to prevent fraud in the future, as it will give station managers an insight into where to post guards, it will also ensure that fraudsters can be reprimanded and blacklisted.

About Gunnebo

Public Transport is the key to a smart, safe, and sustainable future. With Gunnebo's automatic fare collection gates, **the future is here.**

Our gates combine high passenger throughput and safety with reliability, robustness and effective prevention of fare evasion. Around **90 million people** pass through Gunnebo gates every single day, ensuring convenient and safe travel for all.

Just take a look at the stats:

Gunnebo has a global installed park in more than **70,000** access control gates.

Around **90 million people** go through Gunnebo's access control doors every single day.

1 out of every 7 access control doors provided worldwide comes from Gunnebo.

1 out of every 4 access control doors provided in Europe comes from Gunnebo.

More than **200** Metro/BRT/ Railway lines are equipped with Gunnebo solutions worldwide.

More than **35,000** Gunnebo gates have been installed in Mass Transit across: BRT, Bus, Metro, Railway, Tram, Ferry Terminals, Airports, and Stadiums.

Take advantage of our knowledge:
blog.gunnebo.com or www.gunnebo.com

Just some of the Public Transit systems equipped with Gunnebo AFC gate solutions include:

Contact an industry expert to find out more.

With an environmental management system which fulfils international standard ISO 14001, Gunnebo ensures the Group has systematic, structured environmental work in place.

In addition factories ISO 14001 certification, Gunnebo's quality assurance system is based on ISO 9001, which is a tool used to achieve continuous improvements in all processes and increased customer satisfaction.

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