WHITE PAPER

The 3 Biggest Challenges Facing Bus Agencies & One Smart Solution

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The Route Forward

To say that the past few years have presented a bumpy road for public transit would be an understatement. However, though the past years may have amplified the challenges facing bus transit operations, agencies were already struggling with three complex and interconnected concerns even before the COVID-19 pandemic: worsening workforce shortages, meeting the evolving expectations of modern riders, and the ability to sustain and grow revenues.

As it did with many sectors, however, the pandemic hit the transit world like a wrecking ball, magnifying its existing challenges into acute problems and threatening agencies' ability to fulfill their mission of building equitable, connected, and healthy communities.

Keeping a bus transit system on the road today requires new strategies and practical solutions. And while there may not be a silver bullet to solve the multifold challenges transit operators are facing, one remedy that can have a deep impact on transit operations is Automated Fare Collection (AFC) using Open-Loop technologies.

AFC systems use contactless payment methods like credit cards and mobile apps that make it vastly more convenient to pay fares, while saving money and reducing the need for physical interactions between riders and operators.

This guide dives deeper into the three systemic challenges facing bus operations today and how modern AFC solutions can help pave the way forward for riders, operators, and agencies alike.

Challenge #1: The Transit Workforce Shortage

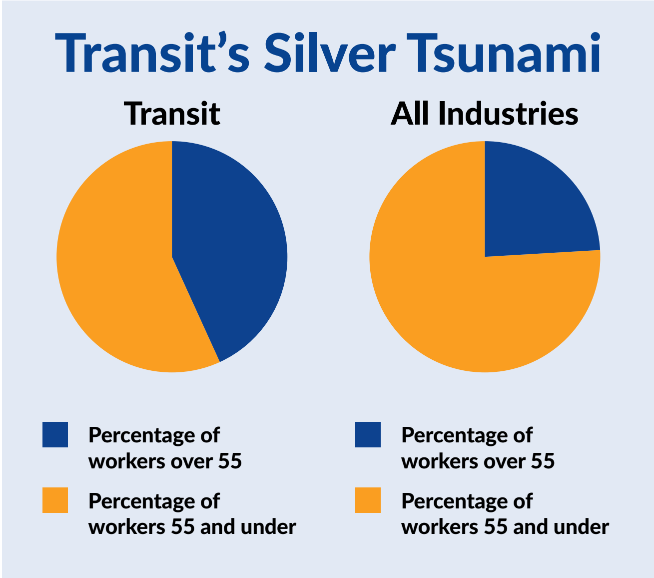
One challenge that has rapidly reached a critical point in the past few years is the workforce crisis. The American Public Transportation Association (APTA) reports that 96% of agencies are facing staffing shortages. And as evidence of the severity of those shortages, 84% of agencies surveyed state that workforce issues are substantially or somewhat affecting operations and service levels.[1]

Prior to the COVID-19 pandemic, transit was already in the midst of a "silver tsunami," the retirement of a large number of experienced transit workers who were hired during the transit boom of the 1960s and 1970s. And the industry continues to struggle to attract younger workers to offset the exodus of retiring staff. According to APTA, 43% of transit workers are over the age of 55, compared with 24% in all industries combined.[2]

Compounding this challenge, the dramatic decline of ridership during the COVID-19 pandemic forced many agencies to lay off employees or offer voluntary retirement packages. As things began to open back up and ridership began to increase, bus agencies and other transit operators found themselves in an extremely difficult labor environment, fueled by "The Great Resignation" — a mass exodus of people from the workforce, along with increased competition from the private sector for able and willing workers.

Though these challenges are pervasive throughout all sectors of the transit industry, bus operations are facing the most severe labor shortages of all, with the vacancy rate for operators at 17%, according to APTA, significantly higher than other transit roles.[3]

The challenges of the job make recruiting difficult: Bus operators must interact with the public during an age of high concern about COVID-19 and other transmissible diseases; they have seen an alarming increase in violent attacks, including robbery and assault;[4] and the industry's labor shortages frequently require that they work split schedules to maintain service during peak periods.



What Is Open Loop?

Most North American transit systems still use Closed-Loop payment systems, those issued by and limited to a particular merchant (think: Starbucks gift card). "Open Loop" refers to mobile payments or bank-issued credit cards with tappable chips that can be used to pay for almost anything — including your daily Frappuccino.

Closed Loop

- ✕ Limited uses
- ✕ An extra card to carry
- ✕ User needs to check the balance
- ✕ Must be swiped
- ✕ Must be topped up regularly

Open Loop

- ✓ Accepted almost everywhere
- ✓ Already in everyone's pocket
- ✓ Connected to a bank or credit account
- ✓ Often contactless
- ✓ Always ready to go

How AFC can ease workforce challenges

Tap-and-board payment systems modernize the transit travel experience, require fewer workers to operate, and improve operators' experience. Here are some ways AFC can make careers in bus operations more appealing to job-seekers:

A MODERNIZED EXPERIENCE

Bus transit is perceived as old-fashioned and, as the APTA Workforce Readiness Guide acknowledges, it is simply not on the radar of young job-seekers.[5] The reality, however, is that public transit is a modern industry with many high-tech career opportunities.

Automated Fare Collection, allowing passengers to travel with the tap of a smart phone or watch, can help to reshape bus transit's image, making it more appealing to younger riders and workers alike.

FEWER EMPLOYEES REQUIRED FOR FARE COLLECTION

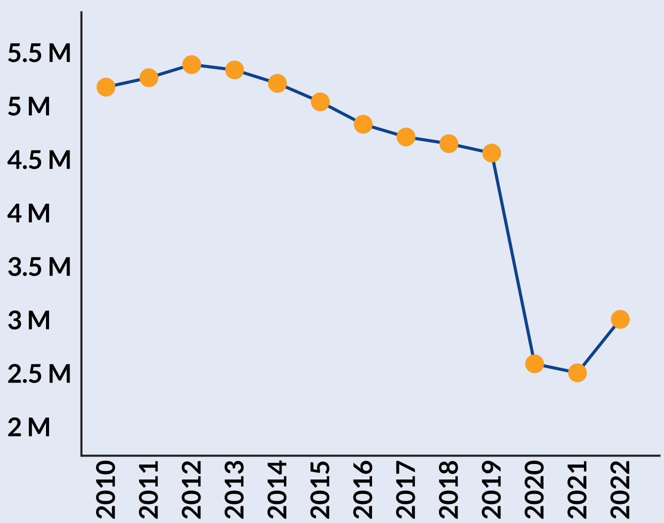
When fare collection is automated, it creates more efficiency by freeing up transit agency staff to handle other important tasks. Since AFC allows customers to manage their own payment methods, it allows customer service staff to focus on the rider experience instead of issuing fare cards or tickets, collecting cash, or spending time dealing with fraudulent cards.

Maintenance staff won't need to install, maintain, and repair fare vending machines and fareboxes. And bus operators get out of the fare collection business entirely, freeing them up to focus on their responsibility to provide safe and efficient service.

IMPROVED SAFETY AND SECURITY

When transit passengers pay by tapping a card or their mobile phone, bus operators and passengers never need to handle cash or fare cards that have been touched by others. This provides increased safety in an age of concern about COVID-19 and other transmissible diseases. AFC also allows transit agencies to eliminate cash boxes, making transit buses a less appealing target for criminals — and making the trip more secure for everyone.

Bus Ridership from 2010 to 2022



Source: APTA's 2022 Ridership Report [10]

Challenge #2: Meeting Rider Expectations

A second challenge that has plagued bus systems in recent years is the ability to keep pace with the evolving expectations of modern riders, who increasingly demand more convenient, reliable, and technologically advanced options in every aspect of their lives, including their daily commute.

Companies like Amazon and Uber have reshaped consumer expectations, and there's no turning back. Today, consumers are accustomed to receiving products and services on demand; being able to track their package — or their ride — in real-time; and making payments with the tap of a card, click of a mouse, or wave of a phone.

The North American transit industry lags in many aspects of modernizing its services, and it risks falling further behind. Despite a small rebound over the past year, ridership remains at only 70% of pre-pandemic levels.[6] The lagging numbers are partially attributable to the continued remote-work trend, which is reducing demand for public transportation.[7]

Additionally, the workforce challenges within the industry have forced agencies to cut back bus schedules or have them struggling to staff every route, leading to poor rider experiences, such as passengers being ghosted by their scheduled bus.[8] Other negative experiences like long waits at transfer points have discouraged returning commuters, who are turning to other modes of transit.[9]

To increase ridership levels and offset the loss of regular commuters, bus transit must attract new regular and casual riders. And to attract the next wave of riders, bus agencies need to meet their expectations for high performance and low barriers to entry. Services, including payments, must be convenient, reliable, intuitive, and integrated into their digital lives.[11]

North American transit agencies can look to the Mobility-as-a-Service (MaaS) model utilized by their European counterparts. APTA defines MaaS as "the integration of a full range of mobility options in one single digital mobility platform offering, with public transportation as the backbone."[12] Agencies can take incremental steps toward MaaS by making improvements in seamless ticketing, route planning, and mobile integration with other modes of travel.

How AFC can increase ridership

Automated Fare Collection is significantly easier for customers, providing them the convenience they expect and demand. Here are some ways AFC helps agencies meet passenger expectations:

LOWER BARRIERS TO ENTRY

To attract less-frequent riders, new customers, and out-of-town visitors, it's vital to have a payment system that's easy to understand and requires no preparatory work or commitment. As some agencies are already discovering, AFC can meet these expectations by using the same payment methods that customers would use for any other daily purchase.[13] AFC means that passengers are not required to carry cash or to have to figure out how to procure and fund an additional card in advance of travel.

FASTER AND MORE CONVENIENT SERVICE

Mobile and credit card payments are becoming the norm, and they're what today's riders overwhelmingly expect. A 2022 study of transit riders in 14 countries reported that 91% expect the option of contactless payment.[14] AFC results in significantly faster boarding times, typically requiring just a tap on a validator, with approval taking under half a second.[15]

Faster boarding reduces dwell time, allowing buses to remain on predictable schedules and making overall travel time shorter and more reliable for riders. This helps bus transit compete with other modes of travel and builds the necessary trust required to retain passengers.

A FIRST STEP TOWARD MAAS

To work toward an integrated model of transit, it's important that every step of a trip can be planned and executed on one device. AFC provides a common payment system that can be used across multiple modes, making it easier for users to access and pay for various services, including bus, rail, ride-sharing, and bikes or scooters.

AFC also provides invaluable data on user behavior and travel patterns, which can help transportation providers optimize their services and create more efficient networks for the communities they serve.[16]

Challenge #3: Sustaining Healthy Revenues

Given the decline in transit ridership since the pandemic, it is not a surprise that revenue is also a challenge. Agencies that rely predominantly on fares have, of course, faced the largest shortfalls, but many have also seen sharp decreases in state and local funding. Although federal COVID legislation provided some temporary relief, this aid is running out, meaning that mass transit overall is facing a "fiscal cliff."[17]

The revenue challenge is compounded by the fact that many transit agencies are grappling with outdated infrastructure and deferred maintenance needs due to decades of chronic underfunding.[18] The only way to address these problems will be to secure more revenues or cut operating costs, with the latter option posing a very real threat to the vital transit services that communities rely on for access to employment, education, healthcare, and other essential needs.

Some difficult choices lie ahead. Many of the budget-cutting options transit agencies will have to choose from are unappealing at best and counterproductive at worst. Some agencies may be forced to cut lower-ridership bus routes, which will disproportionately affect low-income populations who are most dependent on transit.[19] Raising fares would reduce ridership and harm transit-dependent communities. And more employee layoffs will likely lead to negative passenger experience, depressing ridership levels even further.

How AFC can support revenue

As noted in a recent report by the U.S. Department of Transportation, improved passenger experiences and reduced system costs are key benefits of Automated Fare Collection.[20] Here are some additional ways AFC can help an agency meet the challenge of sustaining revenues:

LOWER FARE-COLLECTION COSTS

Agencies that have implemented AFC have seen drastic reductions in the cost-of-fare provisioning and collection.[21] Open-Loop fare collection eliminates the need for an agency to create and maintain its own fare card system or manage cash transactions. It also eliminates the equipment and maintenance costs of fare media vending machines.

Also, some AFC systems can minimize the substantial amount of credit card fees common with a high volume of low-value transactions by consolidating individual charges into fewer transactions.

SEAMLESS UPGRADES

The open architecture platform offered by some AFC vendors allows agencies to mix and match components, with the ability to comparison-shop for the best prices. When new technologies become available, agencies can upgrade individual components of the AFC system without overhauling the entire fare infrastructure. The flexibility of a modular system allows for incremental improvements rather than a complete overhaul of a costly, bespoke system.

REDUCED FRAUD AND WASTE

AFC systems provide transit agencies with additional protection from fraud. The underlying payment technology — EMV credit cards and NFC mobile payments — is highly secure.[22] Payment is linked to a credit account, and a passenger with insufficient funds can be flagged immediately and prevented from entering the system. Additionally, Open-Loop systems reduce the waste associated with single-purpose paper or plastic transit cards.

Navigating the New Normal

Though the challenges bus agencies face may be daunting, transit's mission remains as vital as ever: providing safe, affordable, and sustainable transportation options that reduce congestion, improve air quality, and enhance the local community's quality of life.

Keeping up with the demands of the modern, post-COVID world will mean implementing innovative structural improvements to help attract the next-generation workforce, maintain and grow ridership, and ensure long-term financial stability, while continuing to deliver the services that communities depend upon.

For more information on making the transition to an Automated Fare Collection system, visit **www.enghousetransportation.com** or email **infoET@enghouse.com**.

Educational Resources from Enghouse Transportation

For more information about Automated Fare Collection, check out our other resources.

A TRANSIT AGENCY ROADMAP FOR MOBILE PAYMENT SOLUTIONS

A key way to improve rider experience is to allow consumers to purchase access to transit with their own credit cards, debit cards, and smartphones. And the transition to Open-Loop ticketing is much less daunting than many agencies imagine.

Download this white paper to learn:

- How new Open-Loop solutions feature more flexibility and lower ongoing operational costs than legacy ticketing systems.
- Why this advancement is a critical building block for regions with plans to integrate and connect public and private transportation systems.
- Manageable steps agencies can take to implement Open-Loop payment systems, by adding new services incrementally.

Download Now

WHAT TO LOOK FOR IN AN AUTOMATED FARE COLLECTION SOLUTION

Mobile ticketing reduces dwell times, lowers fare collection costs, and improves the rider experience but, with so many options available, which solution is right for your agency?

Download this Solution Guide to Learn:

- The 7 essential features of an Automated Fare Collection system
- What to look for in a vendor
- The 5 basic steps necessary to make the implementation process as smooth as possible
- An overview of how an Automated Fare Collection solution works and why a modular, open-architecture solution can future-proof your agency.

Download Now

FAQs on AFC Implementation

Many of the questions transit agencies have about Automated Fare Collection revolve around cost and ease of implementation. Following are some of the most common questions we receive. If you have a question not covered below, email our team of experts at infoET@enghouse.com

Is it labor-intensive to transition to AFC?

No. These systems lighten the burden on transit employees and can be up and running with ease in a matter of a few months. A recent Enghouse customer went from signing the contract to having a fully operational AFC system in 60 days.

Is it expensive to switch to AFC?

Compared with creating a single-vendor legacy fare collection system, the cost of introducing AFC is low. To make it even more affordable, transit agencies across the U.S. can participate in the California Integrated Travel Project, also known as Cal-ITP.

As part of Cal-ITP, Caltrans and the California Department of General Services negotiated master service agreements with approved AFC vendors. This allows transit agencies to purchase the components of an Automated Fare Collection system directly from those vendors, without the need for a competitive bidding process.

To get agencies started Cal-ITP provides a how-to guide — including a cost-estimating tool – that you can find here: **https://www.camobilitymarketplace.org/how-to/go-contactless**

Is it necessary to stop issuing fare cards when implementing AFC?

No. Implementing AFC is not an all-or-nothing proposition. Occasionally, the agencies we work with want Automated Fare Collection to be one of several fare options available for their customers. We specialize in integrating AFC into an agency's fare structure and incorporating each agency's unique fare rules into the system.

What does AFC implementation look like?

Our implementation process, honed over decades of working with Asian and European transit agencies, is a streamlined, five-step process. For more information on how our implementation process works, check out our guide on What to Look For in an Automated Fare Collection Solution.

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ABOUT ENGHOUSE TRANSPORTATION

Enghouse Transportation is an innovative provider of electronic ticketing technologies that allow transport operators to reduce costs while improving the customer experience. With a customer-focused approach, Enghouse Transportation delivers automated fare collections, sales, and service, along with back-office solutions that are customized to the needs of each client.

Formed in 1999, Enghouse Transportation is a specialist unit of Enghouse Systems Limited of Markham, Ontario, Canada.

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