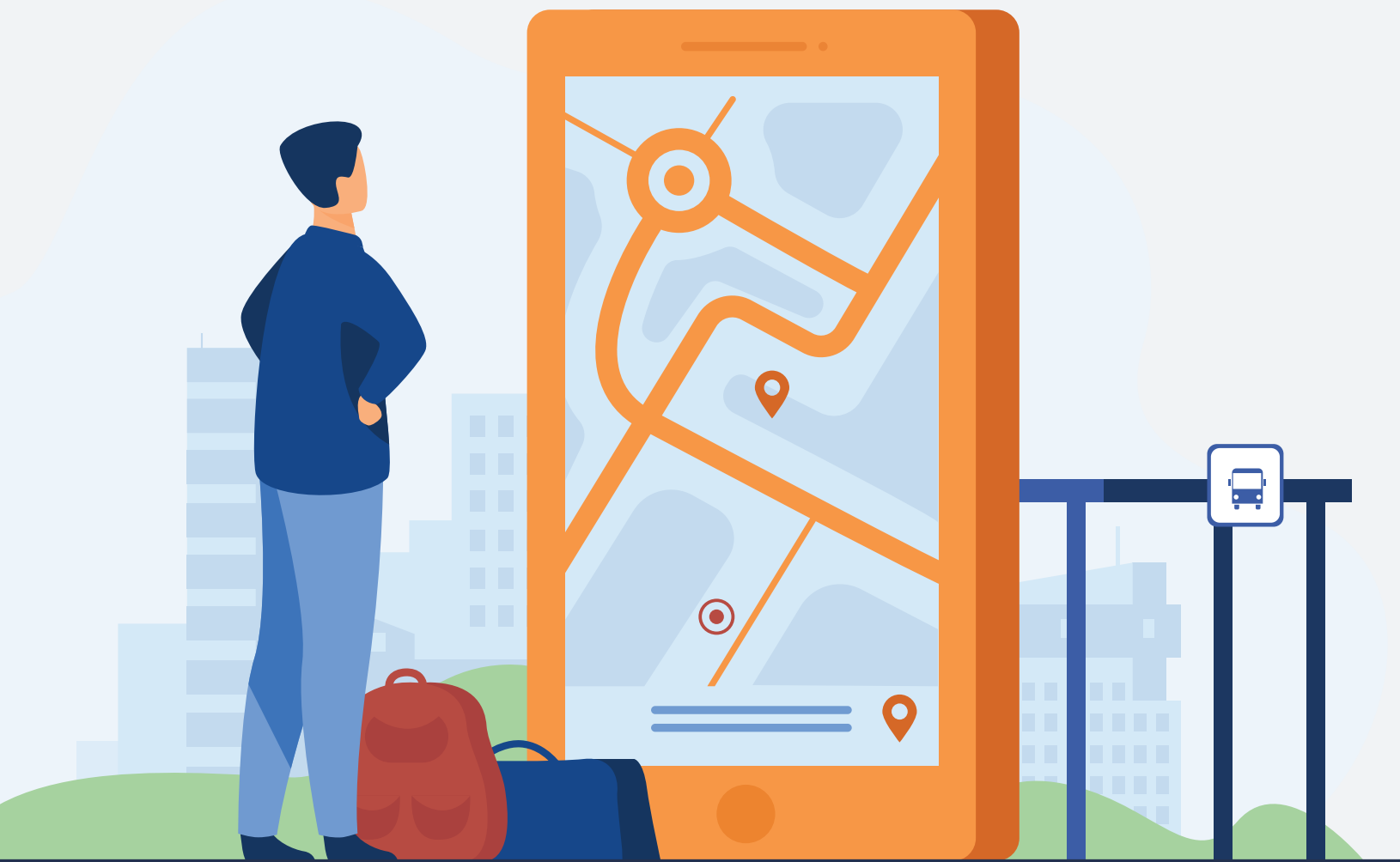


Vertical Integration

The Seamless Transit Solution



GENFARE 

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Let's imagine a transit system in a hypothetical town. This town is medium-sized, with a transit system that – like others all over the US – is struggling to grow its ridership. The system gets an average amount of government funding. Its fares are average, and the fare collection system is of average age. In all respects, this hypothetical transit system is ordinary and unremarkable.

Because our agency doesn't have limitless resources like a transit bank account brimming with excess funds or a surfeit of tech-wizard staff clamoring for the newest and most sophisticated fare collection software, the fare collection system is – like many other towns' – a stitched-together patchwork of systems, equipment, and software. The town has cobbled together bits and pieces to manage all the tasks transit must accomplish. The fareboxes harken back to the olden days and accept magnetics, coin, and cash. Buses also have devices – from another manufacturer, of course – that accept credit cards and farecards customers can purchase from kiosks (yes, from yet another supplier). A software vendor presented a cool demo of a mobile fare collection app, and, on a trial basis, a few buses have installed validators that scan codes displayed on smartphones. The patchwork itself isn't necessarily a problem; it's that these layered, ad hoc solutions present their own challenges.

Our agency is getting by. But we must now reckon with the challenges from our layered solutions, of course. The three devices that accept and verify fares all operate independently; they don't connect or communicate with one another. In order to reconcile collected revenue, our ever-so-slightly understaffed agency must obtain data from all three separate systems in order to build a meaningful report. This is magnified by the number of reports we have to provide within the department, agency and FTA or DOT. Likewise, for vital ridership data, information must be compiled from disparate sources, which makes sophisticated data analytics complex and arduous.

Hardware problems, too, plague this average town's transit agency. The maintenance supervisor who just retired was the only one who knew how to maintain aging fareboxes. There used to be instructions for quarterly maintenance of the credit and farecard reader, but nobody recalls where those instructions are or what the status of the preventive maintenance plan is. Asset management is rudimentary here, just enough to satisfy the federal requirements. The QR code reader for the mobile app functions properly about half the time, but when the driver takes time and assists riders, it almost always works. Payment processing? That's a disorganized mess too, tying up personnel to reconcile and track revenue, while trying to ensure all the various payment methods actually hit the agency's bank in a reasonable period of time. Oh, and the mobile app's reporting functions are lousy, so the accounting department isn't sure the ridership data the app collects is entirely accurate.

And what do our average riders in our average town think? Of course they have no idea of the challenges their transit agency faces, but they've become accustomed to their slow buses. Buses are frequently pulled off the road for intermittent farebox maintenance or other unplanned maintenance needs, which means longer waits for riders. Though many riders are interested in contactless fare payment options, few riders have downloaded the mobile app because they've heard that it doesn't speed up the boarding process. Visitors to the town who might use public transit to attend a minor league baseball game fumble with the kiosks that vend tickets, and they're often carrying farecards with insufficient funds because fare schedules aren't always current. And for the twenty percent of the town's population that is unbanked, riders hoard quarters since the regular fare is \$2.25 and the fareboxes don't give change, resulting in a higher-than-average cost for the riders least able to afford those higher fares.

And the leadership of the town and the transit agency, while they know there must be a better way to collect fares and data, spend all their time managing operational crises, rather than looking ahead and preparing for future challenges. The transit head has heard about data analytics and knows there are secrets hidden in the information collected by the disparate systems, but those secrets remain locked inside devices and reports that are little information islands surrounded by a sea of uncollected and un-analyzed data.

The town in our example is, admittedly, hypothetical. No single town exists that manifests every one of these transit challenges. But, at the same time, every single one of these challenges exists in a very real town, managed by a very real transit agency. Stitching together a solution from parts and pieces that were never intended to coordinate can result in a disorganized patchwork that is anything but harmonious.

Fortunately, there is an alternative.



What is vertical integration?

If stitching together solutions from a number of different providers results in a patchwork, then vertical integration results in a seamless solution, one in which information and revenue move throughout the system without a hitch. Genfare Link, our innovative fare-collection-as-a-service platform, has been purposefully designed from the ground up for unbounded scalability, limitless expansion for new features that may be enjoyed by all of our customers, and has been tightly integrated with all of our hardware products. Fareboxes, probes, vaults, servers, accounting, reporting, and even payment processing are part of the end-to-end solution that facilitates flawless communication and connectivity. In the Genfare Link solution, all of the hardware and all of the software is built to work together, rather than relying on frequently-faulty patches that attempt to bridge the gaps between incompatible components. It's like a plug that fits snugly into the socket it's designed for, rather than a plug for which you must improvise an adapter.

It's important to note that vertical integration isn't new. Genfare isn't inventing it. Vertical integration is the standard for other industries, and we're just bringing transit on board. And integration isn't about the technology itself. Rather, it's about delivering the fullest, most elegant, and most efficient solution for the present and future challenges transit faces.

Why does vertical integration matter?

While vertical integration enables transit agencies to perform some remarkable tasks, it's about so much more than just the wow factor. Because integration is fundamentally solution-oriented, we find tangible, real benefits for organizations that adopt an end-to-end approach.



Operational efficiency

For any task in any industry, there are multiple ways to conceptualize a solution. For example, the software that accompanies fareboxes would require the agency to input fare schedules. That software would record revenue collected and it might even have limited accounting functionality. The trouble is, the agency also has to keep fare schedules updated in places other than the farebox software. That's duplicating work, increasing the probability of human error and resulting in inefficiencies and inaccuracies. Oh, and the transit agency doesn't use the accounting functions the farebox software provides because it doesn't interface properly with other providers' software, but a transit employee still has to comb through data the farebox provides for vital ridership information. Basically, a system that's not vertically integrated can be inefficient and inaccurate, requiring duplicated tasks and consuming more time and energy of agency staff.

In a vertically integrated system like Genfare Link, nothing is duplicated and nothing is lacking. Because the solution is conceptualized by a single entity with the unique ability to see the entire picture, you have a solid, efficient approach to every task, from hardware maintenance to software updates, payment processing, and revenue reconciliation. Such efficiency conserves resources and improves outcomes.

A single, secure payment platform

Fare payment is more complicated than it might seem at first glance. Agencies have to decide what forms of payment they will accept: tokens, magnetics, cash, coin, credit and debit cards, or mobile payment methods like Apple Pay. Then the agency must decide what media will be accepted for fare validation. Finally, funds collected must be deposited and reconciled. When an agency has a patchwork fare collection solution, those decisions and procedures are very complicated indeed.

But Genfare's solutions make it easy to accept any form of payment that might be in a rider's pocket. It's easier and quicker for riders to purchase fares when a system is fully integrated. It's easier and quicker for fares to be validated. It's more secure, more accurate, and more intuitive to collect and reconcile revenue.

In a vertically integrated solution, there's a single, comprehensive, inclusive answer to the question "where and how do I pay?"

In addition to simplifying the payment process for riders, Genfare has developed a fare payment processing infrastructure that makes fare collection and reconciliation even easier and more secure for all our customers. Processing electronic fare payments is more complicated than one might imagine, and this streamlined infrastructure simplifies the process. From creating a merchant account, connecting to a payment gateway, interfacing with both rider and transit banks, approving sales, and ensuring that funds are deposited in an agency's bank as quickly as possible, Genfare's solution is comprehensive, intuitive, and secure.



A user-centered approach

Fare collection solutions can fulfill basic minimum requirements while also being a nightmare for users, both the agency's staff and the riders. When users are confronted with confusing interfaces or difficulties resulting from incompatible systems, even simple tasks can become herculean. In fact, we know that the single biggest barrier public transit riders must overcome is understanding how to pay. When you layer on a confusing patchwork of hardware and software, that barrier grows even larger.

But when the fare collection solution is built from the ground up, with a big-picture overview, we can create a journey that's intuitive, efficient, and designed to move both riders and staff through the tasks they need to accomplish with minimal effort. Because all the components of Genfare's solutions are designed to work together, they deliver desired results in a logical, sensible, user-centered way that's free of the friction created when components don't fit together properly.

Support at every touchpoint

In every system and in every industry, even in the best solutions, users will have questions and difficulties. They'll need help or information. The very first step in obtaining assistance is knowing whom to contact and how to contact them. If you're part of our hypothetical transit agency, you've got a long list of people you might need to reach. People change jobs. Companies move offices or go out of business. App developers close up shop. How do you resolve problems when you don't even know who to reach out to?

Genfare's vertically integrated solutions mean that agencies never have to figure out who to call. It's all baked in. Farebox maintenance? Software training? Deciding to add mobile capabilities? There's no question about where to go. You have robust resources, and they're all in one place. From start to finish, Genfare is invested in ensuring each agency's staff is equipped to get the best from our thoughtfully designed solutions.



A single, consistent version of the truth

Back in our imaginary city, the transit staff has to maintain their fare structure in multiple places because they're using incompatible equipment and software produced by a variety of vendors. Of course, software producers vary in the degree to which they support their products. Infrequent updates frequently result in glitches and other difficulties, which means that perhaps your mobile app rejects all attempts to include a discounted senior fare. You've got angry riders with technology making everything more difficult than it has to be because there's inconsistency, a mixed-up message that's causing all sorts of problems.

A vertically integrated system avoids those problems. Fare structures can be updated in a single place and will be consistently applied across every touchpoint, every piece of hardware, and for every sort of payment method. Every member of the transit team is on the same page. Riders all get the same answers. Clarity reduces confusion and conflict in a seamlessly integrated solution.

Full reporting

Proprietary software always carries limitations, but attempting to compile reports from hardware, software, and systems that were never intended to work together can be a flat-out nightmare. Figures might not add up. Revenue may not appear where you expect it to on a report. Trying to pull together data from disparate systems can be time consuming, and the results you obtain may be inaccurate.

In a vertically integrated solution, every piece of information is readily available. You are far less likely to be plagued by discrepancies in either ridership or revenue. Additionally, reconciliation and analysis of cash and electronic payments can be accomplished in a single, intuitive step, rather than pulling data for cash, mobile, and credit card payments and trying to merge those reports into a single complete and useful report. Genfare knows just how complicated managing data and reporting can be, which is why we've worked hard to make the process easy and reliable.

Built-in data aggregation

Transit agencies generate a lot of information. Reporting revenue and ridership data is absolutely vital, the bare minimum that an agency must accomplish. And patchwork systems make that difficult enough. But that's really just the beginning. There's a wealth of valuable data that's generated simply as a byproduct of collecting fares and moving riders from one place to another. The trouble, of course, is pulling that information out of a system that's metaphorically duct-taped together. And even if you could somehow extract the raw data, what on earth would you do with it? Can you monetize it to help offset other costs?

The Internet of Things (IoT) is radically reshaping the way we live, move about, and work. At every touchpoint, data is recorded. That data can be effortlessly collected and used – assuming you have a vertically integrated solution – to guide decision making at the very highest levels. Perhaps you're wondering about the effect of a fare increase. You send out a survey, and riders naturally indicate that they don't want a fare increase, and in fact that fare increase might reduce their use of transit. Then you roll out a fare increase on a limited basis, and the data reveals that there's practically no ridership impact at all. The data reveals the truth, and it's the truth you need to make the best decisions for the future of your agency.

Data analytics are profoundly powerful, and Genfare's fully integrated solutions can serve up insights that can improve rider experiences, generate additional revenue, and improve efficiency—all managed by simply using data that the IoT collects in the course of normal operations.



Consistent, confident maintenance

We all know that preventive maintenance matters...a lot. But we all also acknowledge that we don't live in a perfect world. Fareboxes are frequently neglected, whether it's as a result of understaffing, uncertainty about proper maintenance procedures and schedules, or insufficient emphasis from agency leaders. Staff changes and budget constraints will always be challenges for any maintenance department, but when you have hardware that's produced by multiple manufacturers, with varying degrees of education and support in terms of maintenance, it's practically impossible to keep everything in good working order.

Genfare builds the hardware. We design the software. We create a fare collection solution that works, and we're excited to train agencies to keep equipment in good condition. Vertical integration plays a huge role in preventive maintenance and repair. We can train maintenance staff. We provide schedules that make it perfectly clear how often every component of our hardware should be serviced. When you need a replacement part, you know where to obtain it. You know how much it costs. Vertical integration takes the guesswork, the uncertainty out of hardware and software maintenance. Updates, fixes, best practices—agencies can rely on Genfare for accurate answers and guidance from transit industry experts.



Vertical integration now and for the future

Let's return to our hypothetical town one last time. We find transit staff struggling to maintain aging equipment and collect data from multiple sources. We see riders fumbling with payment options that don't operate consistently or intuitively. And at the head of the transit agency, we see a leader who's so busy putting out today's fires that there's no chance of anticipating the challenges that lie down the road.

And down the road, great things are ahead for transit agencies that are prepared to capitalize on the opportunities vertical integration presents.

To understand what's happening in one of these forward-thinking agencies positioned to meet both current and future needs, we don't need to fashion a hypothetical town. We just need to chat with the folks at LeeTran in Lee County, Florida, where a fixed-bus network serves communities in Bonita Springs, Cape Coral, Fort Myers, Fort Myers Beach, and much of the county's unincorporated area. Genfare recently checked in with LeeTran following the agency's upgrade to a new Genfare fare collection solution.

LeeTran's previous fare collection solution looked a bit like our hypothetical town's. The fareboxes in service had greatly exceeded their life expectancy and, predictably, didn't work properly with modern technology. Fare collection was slow, dwell time was up, and maintaining fare schedules and discounts was difficult. LeeTran's upgrade was multifaceted and included new Fast Fare fareboxes, TVMs at busy transfer points, mobile ticketing, fare balance management, point-of-sale devices, and data reporting that delivers insights for both the planning and finance departments.

So what does LeeTran look like after its Genfare upgrade? Boarding times are significantly quicker, which means that LeeTran has an improved ontime performance. The upgrade included contactless payment methods, which gives riders and agency employees the opportunity to ride and work more safely. LeeTran has much more flexibility in maintaining fare schedules and offering meaningful discounts, and riders, too, have much greater control in terms of managing their fare balance and selecting payment methods.

People tend to be creatures of habit, which means that changes in a transit agency can cause a bit of apprehension, both for riders and for agency employees. The combination of Genfare's intuitive solution, comprehensive training, and LeeTran's enthusiastic and thorough marketing campaign ahead of the rollout made the upgrade a resounding success. LeeTran effectively managed rider expectations, collected and used feedback, and educated riders and employees so the implementation of the vertically integrated, end-to-end fare collection solution from Genfare works for both riders and the agency.

The future of transit is inspiring and bright when your agency is able to easily, reliably accept any form of payment riders may have in their pockets. When you have full, sophisticated data analytics at your fingertips, you can make reasoned, sound decisions that will deliver efficiencies and better rider experiences. Delivering experiences that riders value – like multi-modal trip planning – keeps transit vibrant and welcomes new riders that will sustain an agency in the future.

Genfare works to create a future in which agencies can dedicate resources to better rider experiences and to more efficient services and operations, rather than exhausting resources on solving today's transit challenges. We build integrated systems that deliver operational efficiency, payment security, effortless reporting, and user-centered results, both for today's users and tomorrow's as well.

Let Genfare show you the possibilities of vertical integration.

