



BUILDING IT RESILIENCE AMID UNCERTAINTY:

Emerging Best Practices for Safe Transit Operations

The COVID-19 pandemic has led to rapid shifts in how transit agencies deliver services.

As remote work has become the norm in many parts of the country, ridership levels and revenues have plummeted even as transit agencies have had to implement new health regulations and try to reassure constituents they can safely use public transportation.

Many transportation agencies have been able to adapt. But with budget shortfalls, continued uncertainty about the pandemic and no sense of what to expect from the federal government, it's still not entirely clear what the new normal will look like for these agencies.

Those were just some of the concerns expressed at a recent roundtable of transit IT leaders convened by *Government Technology* and Nutanix, a software company that helps public sector organizations

modernize and scale their data centers and run applications in a hybrid cloud environment. The digital event brought together nearly a dozen technology decision-makers from cities and states across the country, including IT leaders from the Delaware Transit Corporation, the Greater Cleveland Regional Transit Authority, the Houston Airport System, the Alameda-Contra Costa Transit District and more.

Three key themes emerged from the roundtable as priorities for the year ahead:

1. Making remote work operations sustainable
2. Accelerating digital transformation
3. Navigating revenue and public health uncertainty

The discussion highlighted both the challenges transit agencies will face and the opportunities they can seize to

remain resilient and deliver safe transit operations, even during uncertain times.

CONFRONTING A CRISIS: KEY PRIORITIES FOR TRANSIT AGENCIES

The current crisis has forced transit agencies to become more nimble and transform how they do business in several ways, particularly when it comes to remote work, digital service delivery and maintaining operations amid declining ridership and revenues.

Navigating Remote Work

Remote work has possibly been the biggest sea change for transit agencies. As employers themselves, these organizations historically have not been very telework-friendly, but the pandemic has forced them to adapt. Several transit agencies initially faced challenges with establishing a remote work infrastructure.

“We had to issue devices to all our employees who were working from home — almost none of whom had any equipment,” one agency director said at the

roundtable. “We had to set up VPNs. We expanded our network capability, expanded our bandwidth and rebuilt our firewall. We’ve also gone to all virtual board meetings.”

In many places, a hybrid work environment is here to stay, even after the pandemic is over.

“My expectation at this point is we will not go back to full on-site work,” said one transportation technology officer. “Once this all goes back to normal, we’ll do some form of remote work combined with maybe hoteling in the office for those who are coming in. I think it will look very different. There’s already conversations happening about ‘what does our real estate footprint look like?’”

All of these changes have led to increased pressure on IT teams. Going forward, some agency IT leaders — including Charles Thompson, the CIO of the Port of Houston Authority — said they are just as concerned about creating a sustainable remote work infrastructure as they are about protecting the mental health of remote employees who may feel isolated and the physical health of essential workers who must remain

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on-site. Thompson said balancing all these priorities is vital to Port Houston to achieve its mission.

“The idea behind putting our arms around our staff and our teams is because when they feel comfortable in what they’re doing, we’ve seen a 35 percent increase in service requests,” Thompson said during the roundtable. “We’ve seen an increase in productivity across every line of business, including our essential workers. A lot of those folks are now sending service requests to IT because they know we’re going to follow up. So during this pandemic we got a chance to extend our concept of extraordinary customer service.”

While they continue to navigate the security challenges and operational considerations associated with remote work, transit agencies are harnessing the power of IT to drive more value and improve service delivery — and this ultimately will lead to a better experience for the people they serve.

Embracing Digital Transformation

Shifting to remote work isn’t the only way transit agencies have adapted. These agencies have embraced digital transformation on an unprecedented scale.

Some agencies transitioned to online transactions to relieve backlogs in call centers. Others, like the Massachusetts DOT, are exploring remote eye tests for driver’s license exams and digital licenses that are accessible via smartphone.

Houston’s Hobby and Bush airports moved to touchless interactions by installing and modifying existing kiosks that scan mobile devices or printed passes; in the future, passengers will be able to opt in to using facial recognition for identification purposes and for different interactions in the airport, from curb to gate. Houston is calling it “the touchless journey.”

“Even though people have been concerned about facial biometrics, it’s definitely been allowed and welcomed for international travel,” said Houston Airport System CIO Tanya Acevedo. “Now they’re saying, ‘OK, if people opt in, let’s use it for domestic travel.’ So now the airlines, airports and TSA, we’re all working together to implement solutions that, with passengers opting in and enrolling in either the airline or airport mobile app, the passenger can then check-in, drop their bag off, go through security and board their plane with touchless interactions.”

Digital transformation has taken shape in different ways in other agencies.

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public transit. Delaware Transit Corporation is leaning on technology for route and service optimization and is moving forward with improvements to its mobile app. The agency is also revisiting the use of autonomous vehicles, and how and where within the state it will leverage this technology. (The agency plans to deploy two autonomous shuttles in the very near future.)

“We’re thinking about all the different applications and tools that make it easier for our riding base and the public at large to interface with our system and transit,” said Veronica Vanterpool, chief innovation officer at Delaware Transit Corporation.

While the pandemic has caused massive disruption for transit agencies, it’s also given them the opportunity to advance digital transformation at breakneck speed. And although these changes were born out of a crisis, agency leaders expect them to be a permanent part of the transportation experience.

GRAPPLING WITH REVENUE AND PUBLIC HEALTH UNCERTAINTY

Transit agencies face enormous uncertainties in the near future. The pandemic has led to steep revenue losses for already budget-strapped states and cities. Increasing case counts put future ridership levels in peril, which could further impact revenue for transit agencies.

Federal CARES Act funding initially helped several agencies remain afloat and continue to provide service without having to lay off or furlough workers. But the timing for another round of government relief is uncertain, and many agencies are worried about the sustainability of their operations without support from Washington. The New York Metropolitan Transit Authority (MTA), North America’s largest transportation network, is facing a staggering \$16 billion deficit. Though other agencies don’t match the MTA’s size, scale or ridership levels, the agency’s fiscal picture is indicative of the fiscal crunch smaller transit agencies across the country will face in 2021 and beyond, including those that participated in the recent roundtable, such as the Nevada Department of Transportation and the Cleveland Transit Authority.

Even amid this budget volatility, agencies have had to spend money to implement additional safety measures and to reassure riders that public transit is safe.

“Right now, we’ve just been trying to recover from the current known shortfalls,” said Sherri McGee, deputy chief of IT for the Nevada Department of Transportation. “We have no idea how long this is going to last in Nevada and what the implications are going to be. But we’re getting revenue reports for our fuel taxes and other things — they’re just plummeting. So, both from the federal dollars we bring in and the state dollars we bring in, Nevada’s in a really bad place.”

Some DOTs said they plan to divert some capital funding to cover salaries and help close budget gaps. Others are considering permanently reducing service frequency and eliminating certain lower-volume routes.

Though transit agencies have managed to stay largely resilient even as their revenues have plummeted, they likely will need significant support from the federal government to stave off additional service cuts and layoffs in the months and years to come.

THE PATH FORWARD: TACKLING CHALLENGES AND EMBRACING OPPORTUNITIES

In a year of unprecedented change, transit agencies became more agile as they tried to maintain their operations. However, as these agencies adapt to this new normal and chart a course for the future, they’ll need to embrace a holistic strategy that aligns their people, processes and technology.

In lieu of federal funding, agencies may have to look for creative budget solutions to blunt some of the impact of reduced ridership and revenue. That may include reallocating capital funds, although such changes could require legislative approval depending on the state. In the current crisis,

however, these potential solutions may be more palatable than proposed budget or service cuts.

Agencies also will need to revisit their IT priorities and ensure they align with new business imperatives brought about because of the pandemic, such as building a secure, sustainable remote work infrastructure and facilitating touchless interactions and real-time communications with passengers via mobile. Agencies can explore strategic IT investments that generate ongoing efficiencies. A secure hybrid cloud solution for shared services may help state and local governments improve shared service deployment and application life cycle management, automate their processes and access analytics that can help them further optimize their resources.

Thompson of Port Houston said IT isn’t necessarily a revenue generator for maritime organizations like his, but it enables efficiencies that will pay dividends for these organizations in the long run.

“IT doesn’t save any money, but we can help you shift it,” he said. “What I mean by ‘shift’ is, if you invest in this area and you see revenues in this area, then the sum value across that whole conversation is zero.”

Thompson added that the ultimate value of IT and digital transformation is to empower employees to help their organizations achieve their missions.

“As we go through this, you can’t talk about digital transformation as a glorified CIO term,” Thompson said. “The essential worker is the true revenue driver. If you give them great tools, easy access and easy views into what they’re doing, they will pay you back tenfold.”

This paper was created by the Center for Digital Government with input from Nutanix.

1. <http://web.mta.info/mta/network.htm#:~:text=The%20Metropolitan%20Transportation%20Authority%20is,New%20York%20State%2C%20and%20Connecticut.>
2. <https://www.nytimes.com/2020/07/21/nyregion/mta-subway-financial-cuts.html>

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