



# CASE STUDY

## New York OMNY

### Cubic Urban Mobility Back Office

*Open payments lead project deployment*

#### Modernizing Transit Payment in New York City

Public transportation in New York City runs 24/7 and accounts for one in every three users of mass transit in the United States. Two-thirds of the nation's rail riders live in the New York City Metropolitan Area, and over half of New Yorkers commute to work using public transportation. The New York City Subway system is one of the largest rapid transit systems in the world, with 472 stations in operation. The New York Metropolitan Transportation Authority (MTA) serves 8.1 million customers a day. The city boasts the largest bus fleet in the nation, operating 6,000 buses and over 2 million riders per day across New York City Transit and the MTA Bus Company.

Despite its impressive size, New York's transit system and its fare payment infrastructure was aging rapidly. Some of the equipment dated back to the 1930s and lacked modern functionality, such as the ability to pay for fares with modern payment options or check ride history. New Yorkers faced multiple obstacles when transferring between modes and adhering to multiple payment systems. The iconic yellow MetroCard, MTA's fare card, often required multiple swipes and had to be replaced if lost. Expensive physical fare media, rising ticketing hardware maintenance needs, frequent system breakdowns, and other inefficiencies represented a significant cost to the MTA.

## AT A GLANCE

**City/Country:** New York, New York; USA

**Population:** 20.3m (metro)

**Daily Ridership:** 8.1m

**Problem:** Dated and costly fare payment system unable to meet MTA's goals. A new fare payment system is needed to ensure dual operation of MetroCard and OMNY for a smooth transition.

**Solution:** Cubic's account-based, open payment fare collection system and associated services.

**Project Details:** USD \$598.9 million, including 69 months of design and build and 12 months of warranty, followed by a 6-year operate and maintain period with two 5-year options.

**Current Status:** As of December 31, 2020, Cubic has fully deployed the OMNY open payment functionality and associated hardware across all subways and buses in New York City. The project has completed Phase 3, which included the rollout of the OMNY card, a closed-loop fare option, as well as the retail network and a controlled beta test of the mobile app.

**Benefits to Date:** Adoption numbers are strong, demonstrating customer eagerness to take full advantage of the new system. As of April 2022, the OMNY system averaged over 1.1 million contactless open payment taps per workday, and well over 339 million to date representing over 30% of NYCT of subway and bus daily ridership.

Since the project's launch, MTA has proven the public's attraction to paying with a contactless credit card or digital wallet. Additionally, with only a "PayGo" fare to offer, OMNY continues to capture market share relative to MetroCard, which bodes well for the adoption of OMNY and the MTA's continued ability to migrate riders to the new system.

**End Outcome:** A modern, scalable, and future-proof account-based fare payment system capable of supporting multiple payment methods and agencies. "This really is an extraordinary accomplishment that will transform the way that people pay their fare," Sarah Feinberg, Former President of New York City Transit<sup>1</sup>.



# MTA AGENCY STATS



## SUBWAYS

472 Stations<sup>2</sup>

5,493,875 Riders

(Avg. Weekday 2019)<sup>3</sup>

2,262,345 Riders

(June 21, 2021)<sup>4</sup>



## BUSES

6,000 Buses

(Approx)<sup>5</sup>

2,158,469 Riders

(Avg. Weekday 2019)<sup>6</sup>

1,110,837 Riders

(June 21, 2021)<sup>7</sup>

## OPERATORS

Metropolitan Transportation Authority (MTA)

- New York City Transit (NYCT)
- MTA Bus Company
- Staten Island Rapid Transit Operating Authority (SIRTOA)

### COMING SOON:

- Long Island Rail Road (LIRR)
- Metro-North Railroad (MNR)
- MetroCard affiliates transitioning to OMNY

## OPERATIONS & MAINTENANCE

### CUSTOMER SUPPORT SERVICES

- Customer Services
- 3rd Party Retail Management

### ASSET MAINTENANCE SERVICES

- Device Workshop Repair
- Inventory Management
- Field Maintenance
- Obsolescence Management
- Service Desk

### OPERATIONAL TECHNOLOGY SERVICES

- System and Network Administration
- Security Management
- System Configuration Management
- Infrastructure Management
- Software Maintenance

### FINANCIAL SERVICES

- Financial Reconciliation
- Clearing and Settlement

### TECHNICAL SERVICES

- Program Management
- Engineering Support
- Test Support

## DEVICES

Bus Validators:	12,964
Subway Validators:	5,261
Fare Control LAN Switches:	941
Onboard Validation Handheld Devices:	225
Customer Service Point of Sale (CS-POS) (incl. Front Office, Back Office, and Portable Vans)	58
Extended Use Cards	12.5M
Limited Use Cards	14M
Configurable Vending Machines	2,375
Railroad Ticket Office Machines	117
Revenue Facility Workstations	86

*(Devices are in various stages of deployment)*

<sup>2</sup> <https://new.mta.info/agency/new-york-city-transit/subway-bus-ridership-2019>

<sup>3</sup> <https://new.mta.info/coronavirus/ridership>

<sup>4</sup> <https://new.mta.info/coronavirus/ridership>

<sup>5</sup> <https://new.mta.info/agency/new-york-city-transit/subway-bus-ridership-2019>

<sup>6</sup> <https://new.mta.info/coronavirus/ridership>

<sup>7</sup> <https://new.mta.info/coronavirus/ridership>



# OMNY

## One Metro New York Delivers Modern Fare Payment System

In 2017, the MTA chose Cubic Transportation Systems to upgrade the fare payment system on the city's subways, buses, and trains, with a modern fare payment system, One Metro New York (OMNY), that will fully replace the MetroCard in 2023. The new system allows customers to create personal transit accounts that enable them to track ride history across transit modes, check balances, and add fare value to their accounts through a mobile app or website, replacing the functionality currently offered only through ticket vending machines. **The system offers riders absolute freedom when it comes to paying for their trips - New Yorkers can take advantage of the more traditional agency-issued smart card, open payments, and digital wallets at the bus and turnstile.** The project scope also includes a traveler app, expanded retail network solution, customer call center, and mobile ticketing, as well as replacement of existing MetroCard vending machines and rail ticket vending machines with universal, configurable vending machines capable of handling different types of fare media.

The OMNY project will reduce costs for the MTA by significantly reducing the dispensing of fare media, streamlining fare calculation, and phasing out old equipment that is more costly to maintain each year, allowing the MTA to redistribute those savings towards improving transit operations for millions of daily riders.

OMNY is the first major fare collection system in the world to launch open payments ahead of closed loop smart cards.

“ In these times, if you're not really sure you're going to work or if you're the essential worker who needs to go into work everyday, use OMNY, it's the way to get the cheapest rate for the subway...

**SARAH MEYER**  
CHIEF CUSTOMER OFFICER  
MTA

“ The OMNY project has the potential to reduce costs for the MTA by significantly reducing the dispensing of fare media, streamlining fare calculation, and phasing out old equipment that is more costly to maintain each year, allowing the MTA to redistribute those savings towards improving transit operations for millions of daily riders.

Reaching the economic goals and objectives of the OMNY project is imperative and include:

- » Maintaining and increasing transit use without increasing the net cost,
- » Minimizing implementation impacts and costs,
- » Maximizing system security,
- » Reducing cash and growing out-of-network sales.

In addition, the new system will allow people to move through the transit network faster and easier. It will make public transit more convenient, more accessible, and more efficient while providing improved customer convenience and service, all while leveraging existing infrastructure.



## A Phased Approach to Success

OMNY project delivery began in 2018 and is scheduled to be complete in 2023, with the railroad completing in 2024. The project is being delivered in several phases.

- » **Phase 1** covered the launch of contactless open payment acceptance at stations and bus lines (May 2019) and marked the rollout of the OMNY pilot to all subway station entrances on Lexington Avenue Lines between Grand Central-42nd Street and Atlantic Avenue-Barclays Center and all buses on Staten Island. **Completed**
- » **Phase 2** delivered completion of subway and bus contactless acceptance (December 2020). Phase 2 installations began in November 2019 and continued until late 2020 when all subway stations and buses were upgraded with open payment supportive validators. **Completed**
- » **Phase 3** launched the rollout of the OMNY retail network (October 2021) that includes customer service points of sale, and the OMNY card and retail store locator in November 2021. **Completed**
- » **Phase 4** covers mobile ticketing, on-board sales, and validation device (OSVD) software. Phase 4 includes the deployment of fare vending and ticket office machines to the Long Island Rail Road (LIRR) and the Metro-North Railroad (MNR) completing in 2024, as well as replacement of all vending machines in the NYC Transit system in 2023.
- » **Phase 5** marks the completion of 'Revenue Service' acceptance testing. This phase officially completes the project without adding any new functionality.



We delivered the project to every station and every bus on schedule and on budget. I want to thank Cubic, our partner who worked on this project from day one. They are one of the most professional companies I have ever had the honor of working with.

Cubic learned key lessons from delivering similar contactless payment systems at transit systems around the world and applied them to New York and our customers will have a better customer experience because of it<sup>8</sup>.

**AL PUTRE**  
FORMER EXECUTIVE DIRECTOR  
OMNY FARE PAYMENT PROGRAM  
NEW YORK CITY TRANSIT  
MTA

OMNY entered its pilot phase in May 2019, after only 18 months from contract award. Following a successful pilot, the full rollout of the system kicked off in November 2019. The CTS team worked closely with MTA to facilitate the installation of validators across the city.

On December 31, 2020, the New York MTA announced the completion of the physical rollout of OMNY on all subways and buses across all boroughs in New York City. The team deployed more than 15,000 validators on approximately 6,000 buses and in 472 stations in preparation for OMNY.

In 2021, the CTS mobile team launched a beta test of the OMNY mobile application with account management and trip planning tools.

## The Right Technology for the Job

OMNY is underpinned by the Cubic Urban Mobility Back Office, a comprehensive suite of urban revenue management and back-office solutions that can handle revenue collection, payments processing, customer, partner, and device management, financial accounting, and data analytics for the largest and most complex urban transit systems. Cubic Urban Mobility Back Office helps agencies modernize large fare collection systems with multiple fare rules, and offers software and hardware solutions to give riders a central place to pay for all modes of travel, however they choose—be it through mobile payments, contactless, or account-based ticketing.

<sup>8</sup> <https://youtube.com/watch?v=jk47ABCZMuQ>



Cubic Transportation Systems understands that there's always more to journeys than the destination. That's why we are passionate about creating a more connected world by applying technology to help transportation agencies and municipal partners deliver seamless, integrated, and efficient mobility solutions...



Cubic Urban Mobility Back Office is built for the future with a flexible rules engine and the ability to accommodate open APIs. It combines key components of an integrated back office, giving transit providers the ability to manage and optimize even the most complex travel networks, with the flexibility of choice that helps them prepare for future use-cases.

Cubic Urban Mobility Back Office supports future integration with other account-based fare payment systems, offering cities, regions, and states a holistic, fully scalable solution for regional transit and surface transport management, giving transit authorities the ability to influence traveler behavior across transit modes and helping support their public equity and sustainability goals, in a way that wasn't possible before.

## Why Cubic Transportation Systems?

Cubic Transportation Systems has been an MTA partner for nearly three decades. Cubic designed and delivered the original MetroCard system, including gates and turnstiles, in 1993. Since that time, Cubic Transportation Systems has continued to support the MTA through various projects, including the introduction of the Select Bus Service, the Second Avenue Subway Project, the Number 7 line extension, creation of Barclays Center transit

hub, the South Ferry Terminal, Tompkinsville Station, the Fulton Street Transit Center, the Westchester Bee-Line, and the recovery post-Superstorm Sandy, among many others.

In 2016, Cubic received a \$40.3 million contract extension for software programming and maintenance support for the agency's MetroCard Automated Fare Collection (AFC) system on an as-needed basis until the system is decommissioned and fully replaced by OMNY.

The intimate knowledge of New York's transit system, its challenges and limitations, combined with more than 50 years of experience in developing innovative travel solutions that help people find their way faster and more efficiently, made Cubic Transportation Systems an ideal partner for delivering OMNY.

Cubic Transportation Systems understands that there's always more to journeys than the destination. That's why we are passionate about creating a more connected world by applying technology to help transportation agencies and municipal partners deliver seamless, integrated, and efficient mobility solutions that simplify daily commutes, reduce traveler frustration, and make journeys stress-free—all while helping cities realize their public equity objectives.

# PROJECT MILESTONES

