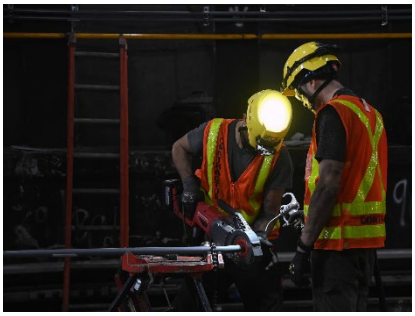
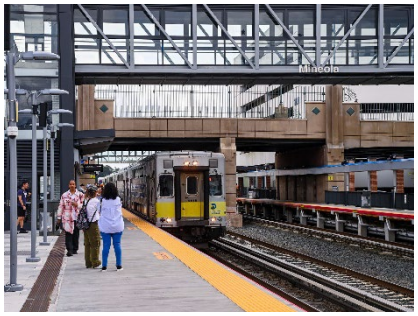
Transit Tech Lab





We're modernizing public transit with technology.

The Transit Tech Lab (TTL) provides an accelerated pathway for early- to growth-stage companies to solve public transportation challenges for the largest transit agencies in North America. Transit agency partners include the Metropolitan Transportation Authority (MTA) and its agencies, the Port Authority of New York and New Jersey (PANYNJ), NJ TRANSIT, and the New York City Department of Transportation (NYCDOT).

Since inception in 2018, over 900 companies have applied to participate in the program, 69 companies have tested their technologies, and 30 solutions have commercially scaled or informed commercial procurements.

APPLY HERE >

MTA NJ TRANSIT NEW YORK CITY DOT PORT AUTHORITY NY NJ AIR LAND RAIL SEA PARTNERSHIP FUND for New York City

Learn more at transitinnovation.org

Transit Tech Lab

WHY TRANSIT TECH LAB?

Opportunity for early-stage companies to work with North America's largest transit agencies.	Each application submitted is reviewed by relevant domain experts, with potential to pitch directly to relevant transit agency decision makers.
Eight weeks of programming for finalists with a customized plan to evaluate a technical test.	An accelerated, pre-approved process to facilitate collaboration with key go/no-go decision points by transit agency leadership.
Direct access to relevant decision makers and subject matter experts.	Exposure to transit agency leaders, private sector investors, and industry experts.
Opportunity to participate in a deeper technology test via a pilot to further demonstrate value.	An opportunity to deploy technology at scale across the MTA, NJ Transit, Port Authority, and DOT.

KEY DATES

JANUARY 30, 2025, 1: ET	Virtual Information Session | RSVP Here
FEBRUARY 27, 2025	Applications Due | Apply Here
MARCH 2025	Evaluation Period
APRIL 2-4, 2025	Semi-Finalist Pitch & Demo Day (NYC)
MAY–JUNE 2025	Proofs of Concept Phase
JULY 9-10, 2025	Finalist Presentations (NYC)
NOVEMBER 2025-2026	Yearlong Pilots

CONNECT WITH US!

Have Questions? Here are a few ways to learn more:

- Check out our FAQ to learn more about how the Transit Tech Lab works, our evaluation criteria, and what to expect if your company is selected for the program.
- Email us with your questions at news@transitinnovation.org
- Schedule a 1:1 chat with a Transit Tech Lab team member to ask questions and find out if your company is a good fit for this year's Lab.

For updates, follow us on LinkedIn and sign up for our newsletter!

Transit Tech Lab

2025 CHALLENGE COMPETITION

Ridership Improvement

How can we accurately measure, capture, and improve paid ridership and travel demand data to optimize transit schedules and communicate effectively?

Technologies may include but are not limited to solving the following use cases:

Tools to measure passenger loads on subways, commuter rail roads and buses, understand travel patterns, and optimize scheduling according to paid ridership demand

- Tools to automate scenario planning and schedule adjustments with the ability to:
    - Incorporate an overlay of ridership data, train cycle changes, and loading profiles of trains
    - Optimize train assignments addressing operator shortages and labor constraints
- Active traffic demand analytics and tools to aggregate event data and travel patterns at big venues, airports, and major transit centers to support scheduling, transfer, and traffic management changes based on demand
- Bluetooth beacons to better understand customer flows within stations and inform how users navigate transit systems
- Statistical analysis tools to evaluate how effective various bus lane treatments (e.g., curbside, offset, center/median-running, busways, etc.) are at improving bus and passenger travel times.
- Tools to reduce fare evasion including fare compliance tools to assist fare inspections

Tools to inform customers and internal staff of service changes, disruptions, crowdedness, and arrival times to optimize navigation of disparate transit systems (buses, subways, trains, paratransit, airports, transit hubs, etc.)

- Drones and crowd sourced information to monitor traffic congestion, road hazards, and incidents along bus routes to empower field dispatchers to make data-driven decisions by integrating real-time road conditions, traffic patterns, and bus schedule projections.
- Tools to provide accurate station arrival and train outage information by tracking status, speed, and location of trains via intelligence from track circuits/signaling system
- Notifications, alerts, and other communication techniques enabling real-time personalized information about planned and unplanned service changes sent directly to customer and employee phones
- Personalized wayfinding tools to help customers navigate disparate systems
- Data joining tools to combine survey data with operational data to inform customer service response
- Tools to identify, manage, and improve interoperability of various siloed data systems and communication between departments

Tools to systematically capture storm and flooding information to better understand how weather impacts service

Transit Tech Lab

Inspection & Maintenance

How can we digitize manual inspections and optimize maintenance processes?


Technologies may include but are not limited to solving the following use cases:

- Zero-emission bus specific operations and maintenance tools:
    - Analytical tools to help understand the safety, maintainability, operations, and reliability of hydrogen fuel cell electric buses
    - Tools that harvest machine data to predict and analyze performance trends on electric buses
    - A tool that collects electric bus data, transforms the data into maintenance feeds and leading indicator trends, and then flags for action
    - Positioning solution to optimize the charging of electric buses that can be utilized by any electric bus manufacturer
- Data analysis tools to improve maintenance prioritization
    - Video-based AI tools to aid in car and rail maintenance and inspections (e.g., detecting rail defects and trespassers; locating voltage leakage along the third rail system; catenary and pantograph monitoring; providing insights into vegetation management, grade crossing levels, ballast shoulders, etc.)
    - Tools to accurately assess operational state of fleets/specialty rail vehicles based on engine hours and mileage data
    - Tools to recommend maintenance and replacement parts according to operational state of fleets/specialty rail vehicles, and bridges and tunnels
- Hardware to improve physical inspections and manual maintenance processes:
    - Cameras, microphones, accelerometers on revenue and non-revenue vehicles to

augment inspections with more reliable and granular information

- Tools to maintain and clean third rail systems without powering off
    - Tools to simplify maintenance and inspections of hard-to-reach areas of large facilities (e.g., tools to more efficiently clean glass, inspect equipment at the tops of buildings, change a light bulb, etc.)
- Tools to help maintain a state of good repair in all facilities including:
    - Green, cost-effective construction materials
- Cost-effective methods to retain heat/air
- Alternative cost-effective techniques to de-icing that won't erode roadways
    - New weigh in motion technologies to better enforce overweight truck restrictions
- Tools to automatically alert and/or modify existing 3D digital twins
- Tools for secure, remote diagnostics, repairs and data capture (e.g., secure VPN access, private 5G networks) to maintain machines and pull data without requiring physical presence.
- Total Cost of Ownership (TCO) modeling software to inform strategic business and operational decisions that can analyze and weigh cost impacts (cost modeling over time), environmental assessment(s), and risk impacts; across large projects impacting operating efficiencies, fiscal accountability/savings and service delivery.
- Tools to aid and support Standard Work (SW) process of scaling and institutionalization of inspections and maintenance activities and improve operating efficiencies
- Workflow processing and enterprise management tools to reduce the time it takes to conduct business including:
    - Tools to digitize paper-based processes, PDF readers, and digitization tools that can integrate with existing systems such as timekeeping systems to automate timekeeping, training assignments, and work rules
    - Tools to track and improve employee availability and attendance (e.g., sick leave data collection, health form verification, attendance incentivization, etc.).
- AI tools to digitize and optimize scheduling, crew management, and yard management

Transit Tech Lab

TESTIMONIALS

"Participating in the Transit Tech Lab has definitely opened doors for us in the transit space. New York has one of the world's oldest, largest, and most ridden subway system. As a technology company that is primarily known for its work in the aviation space, working with the MTA gives us an incredible amount of credibility as we talk to other transit operators globally — a lot of the conversations that we're having now as we try to build our mass transit business would not be possible if we didn't have such a great use case from the MTA and Transit Tech Lab."
Patrick Salemme, Strategic Account Director for North America, Veovo

"Being in the TTL has exceeded our expectations in almost every respect. The process is well-designed and doesn't waste anyone's time. Stakeholders are hands-on, deeply engaged, and real decision-makers. For us, it's been an opportunity to deploy in a real-world environment rapidly and in a collaborative partnership with a direct path to ongoing deployments."
Gary Angel CEO Digital Mortar

"One of the standout advantages of TTL is its ability to facilitate introductions to key decision makers at transit agencies. For companies like ours, gaining access to these influential individuals can be a game-changer. It allowed us to directly showcase our product to those who have the power to make significant decisions within the transit industry."
Gregory Fogarty CEO TekTracking

"Working with the TTL was a great experience. Not only did the format of the POC enable us to showcase and prove our technology to a wide audience, but it also afforded us extremely valuable insight and experience."
Joseph Hlady – CEO, Lux Modus

"We absolutely loved the Transit Tech Lab program and found tremendous value from it. It helped illuminate some of the biggest challenges facing transit agencies today and facilitated ways for us to meaningfully engage some of the largest agencies in the country and help address those challenges with our innovative solutions."
Jonny Simkin, CEO, Swiftly