NEW YORK CITY DOT

NYC / EDC Newlab

Building Safer, Smarter Streets with AI

Open Call

July 2025

A SHARED MISSION

COMMON VISION

NEWLAB AND DOT SHARE A COMMON VISION TO ADVANCE THE DEVELOPMENT OF CRITICAL TECHNOLOGIES TO PROMOTE LONG-TERM SUSTAINABILITY IN CITIES AND DECARBONIZE THE BUILT ENVIRONMENT.

OPPORTUNITY

Tapping into the open innovation ecosystem and piloting with leading global startups will help DOT validate transformative AI, sensing, and data solutions for assessment, management, and planning, and be an early adopter and scale partner for startup technologies that will transform cities.

SPEED LIMIT SIGN MONITORING

PILOT TRACK 1 – PROBLEM FRAMING

MAIN ISSUE

Speed limit signs are foundational to New York City's automated traffic enforcement system. When signs are missing, obscured, or vandalized, citations issued on that segment of roadway may be invalidated—resulting in lost revenue, legal challenges, and reduced credibility of enforcement programs.

EXISTING APPROACH

DOT currently relies on a small team of two staff members to manually inspect ~2,200 enforcement-related speed limit signs across the city. These inspections occur monthly, during daytime hours, and follow predetermined routes that are often subject to heavy traffic. As a result, inspection coverage is limited, infrequent, and may miss critical signage issues.

KEY CHALLENGES

The existing process is reactive and resource-constrained, creating extended periods where signage issues go unnoticed. This can lead to mass ticket dismissals, refund obligations, and reputational damage. With limited personnel and no real-time validation mechanism, scaling this model to support a growing enforcement network is increasingly unsustainable.

CORE QUESTION

How might we…

reliably & efficiently monitor the visibility & integrity of enforcement-critical speed limit signs across the city?

STREETLIGHT OUTAGE DETECTION

PILOT TRACK 2 – PROBLEM FRAMING

MAIN ISSUE

Streetlight outages across New York City often go unaddressed for extended periods because the system depends almost entirely on public 311 complaints. This creates dangerous gaps in nighttime visibility, especially in high-traffic, high-pedestrian, or construction-heavy areas. The lack of proactive detection undermines safety, trust, and equity in public infrastructure services.

EXISTING APPROACH

DOT no longer conducts regular nighttime patrols to identify outages—these were discontinued during the COVID-19 pandemic. Currently, the only trigger for streetlight repairs is a manual work order, usually based on 311 complaints or staff observations. This reactive model limits visibility into real-time lighting conditions and delays response times.

KEY CHALLENGES

Without a systematic monitoring solution, outages may persist unnoticed for days or weeks. This creates public safety risks and deepens service inequities in underreported neighborhoods. Parks, pedestrian zones, and non-roadway lighting add complexity. Finally, inconsistent data inputs and a lack of device standardization limit the feasibility of automation without better sensing tools.

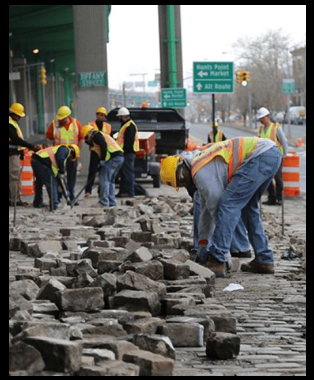
CORE QUESTION

How might we…

proactively detect & respond to streetlight outages without relying solely on 311 complaints or manual patrols?

CONSTRUCTION PERMIT COMPLIANCE

PILOT TRACK 3 – PROBLEM FRAMING



MAIN ISSUE

With more than 200,000 street and sidewalk permits issued annually, DOT currently lacks a scalable way to monitor whether these spaces are being used in accordance with the terms of each permit or are being used at all. This results in inefficient deployment of inspectors, significant enforcement gaps, inefficient use of public space, and diminished public trust when violations go unaddressed.

EXISTING APPROACH

DOT deploys 150–200 inspectors citywide, conducting more than 600,000 inspections per year. However, enforcement depends heavily on physical presence and timing—meaning violations that occur outside inspection windows or in less-monitored areas may go unnoticed. Inspectors may also go to sites where permittees are not yet using the space, wasting limited agency resources.

KEY CHALLENGES

Many violations take place outside permitted hours or dates, making detection difficult without real-time visibility. Some permit terms (like sidewalk width clearance) are challenging to verify after the fact. Some companies secure permits, but then do not actually use the street space. As the economy of the city continues to expand, the volume of permits and construction activity is rising.

CORE QUESTION

How might we…

verify that permitted street and sidewalk space is being used lawfully—at the right time, in the right way?

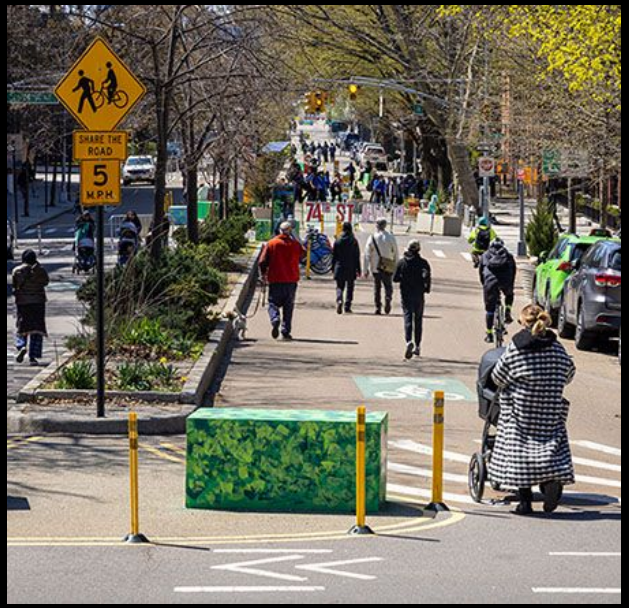
PILOT TRACK 4 – OPEN CATEGORY

AI FOR TRANSPORTATION SAFETY & OPERATIONS

WHY THIS TRACK EXISTS

NYC DOT manages one of the largest and most complex urban transportation systems in the world—spanning 6,000 miles of streets, 800 bridges, 400,000 streetlights, and the full spectrum of public right-of-way infrastructure. Its mission is to ensure the safe, equitable, and sustainable movement of people and goods while shaping public spaces that strengthen communities.

Because DOT's work touches nearly every aspect of city life—from traffic signals and bike lanes to ferries and freight zones—many AI-enabled innovations may not fall neatly into one of our pre-defined pilot tracks, but still hold real promise.



WHAT WE'RE LOOKING FOR

This category invites exploratory concepts that leverage AI, sensing, or geospatial data to improve street operations in ways that align with DOT's broader goals. Solutions should be pilot-ready and relevant to street-level challenges such as:

- Assessment and predictive maintenance for street assets
- Street safety analysis or near-miss incident reporting
- Bike lane network usage
- Camera enforcement evasion, including use of so-called ghost plates

NOTE: Submissions must be relevant to NYC DOT operations. Proposals outside the jurisdiction of NYC DOT as it relates to transportation, urban infrastructure, or public safety will not be considered.

POTENTIAL PILOT RESOURCES

During the pilot design phase, selected teams will work with NYC DOT and Newlab to confirm appropriate resources to activate for pilot testing. Below are possible assets that could be used during pilot deployment. This list is currently illustrative, all specific data, personnel and physical resources will need to be confirmed.

Digital Assets	Physical Assets	People & Expertise
City datasets such as NYC Open Data and 311 feeds (as available). **Internal performance and planning datasets** (availability varies by project scope). **Access to aerial or street-level imagery** from existing vendors or city partners (subject to licensing and availability). **Telematics or enforcement metadata**, pending permissions.	**DOT-operated vehicles** that may be able to host cameras or sensors for data collection. **Select infrastructure environments** (e.g., specific intersections, construction corridors) that may be suitable for sensor-based pilots.	**DOT teams** with subject-matter expertise in traffic technology and data systems, including the **Analytics & Performance Management (APM) team**, which oversees internal datasets and AI-related tools. **Newlab** for pilot scoping, prototyping, regulatory navigation, and storytelling.

For reference: Explore NYC DOT's Street Design Manual—a comprehensive guide to New York City's street design standards, policies, and best practices. Reviewing this manual can help applicants better understand how street infrastructure is planned, implemented, and maintained.

KEY DATES

- Open Call Launch: **July 23, 2025**
- Application Deadline: **August 15, 2025**
- Startup Selection: **September 2025**
- Pilot Design & Contracting: **September 2025**
- Pilot Deployment Window: **October 2025 – January 2026 (4 months)**
    - **NOTE 1:** Pilot deployment may take place at one or multiple locations, depending on the nature of the solution and what is best suited to the use case. Sites will be identified and confirmed during the pilot design phase with DOT.
    - **NOTE 2:** A stipend will be provided to help cover costs associated with pilot deployment. Participating teams should also expect to contribute in-kind resources toward implementation.
- Public Showcase: **February 2026**