

## Overview

City Name	Project Name	Tech Area	Budget for Solution	City Point of Contact
New York City	Automated Mobility Counting	Smart Mobility	\$50,000	Carl Sundstrom, <a href="mailto:csundstrom@dot.nyc.gov">csundstrom@dot.nyc.gov</a> Paul Rothman, <a href="mailto:prothman@cto.nyc.gov">prothman@cto.nyc.gov</a>

## Project Brief

### Project 1: Automated Mobility Counting

- **Project Scope. Please provide project narrative. Outline the problem that needs a solution and include high level timeline and end product. Be clear and succinct.**

New York City is testing computer vision technologies that automatically collect and process transportation mobility data through either a live video feed, recorded video, or a site-mounted sensor. Currently, street activity data is collected through time- and person-intensive methods that limit the location, duration, accuracy, and number of metrics for analysis. By incorporating computer vision based automated counting technology we can overcome many of these limitations with flexible solutions that can be deployed as permanent count stations or short-duration counters with minimal set-up costs and calibration requirements.

This project will launch in January 2021 with development of one or more technologies for the New York City environment with all sites installed and operational by May 2021. The sensors or software will remain in operation through early fall to provide time to refine the algorithms and hardware in real-time and capture periods of the year with significant weather and traffic changes. A full analysis will be conducted in the fall with a full project report finalized in December 2021.

- **Ideal Technology Solution**

New York City is looking to leverage hardware sensor and software technology. We are looking for technology that can process mobility information on the device without transmitting potentially sensitive video data or process real-time video that is already made available by New York City. This technology must be able to withstand environmental factors including heat, rain, snow, wind, dirt and freezing temperatures and transmit the observational data to the NYC Department of Transportation and the NYC Mayor's Office of the CTO.

The primary analysis measure for this program is count accuracy under different environmental conditions. It is expected that the algorithm will be trained to correctly identify and classify road users such as pedestrians, bicyclists, buses, different types of trucks, and cars even if they're in mixed traffic or going different directions. Ideally, this technology will also allow analysis of specific detection zones and lines that can be used to identify turning movement counts, vehicle speeds, road user paths, and dwell times in specific areas such as loading zones or bike lanes.

## Smart Cities Testbed Project Brief

This project aims to test out sensing hardware and computer vision algorithms in a number of different and challenging environments including public plazas, protected bike lanes, shared use paths, busy avenues with a mix of bus, bike and general lanes, loading zones, and dense pedestrian sidewalks and crosswalks.

- **Required Cybersecurity and Privacy Standards**

Any technology solution must align with the New York City's cybersecurity and privacy policies. The City of New York's cybersecurity and privacy requirements are available here:

<https://www1.nyc.gov/site/doitt/business/it-security-requirements-vendors-contractors.page>

[https://www1.nyc.gov/assets/moip/downloads/pdf/citywide\\_privacy\\_protection\\_policies\\_and\\_protocols.pdf](https://www1.nyc.gov/assets/moip/downloads/pdf/citywide_privacy_protection_policies_and_protocols.pdf)

We expect that if new sensors are to be installed they will process any video on-board the device to anonymously extract data without saving video except for calibration and QA/QC purposes.

- **Project Funding: \$50,000**

We are expecting the project to cost roughly \$100,000 to execute over a 1-year timeframe. New York City is contributing \$20,000 in funding and \$18,000 in staff time and is looking for approximately \$12,000 in contributions from the relevant technology companies either through in-kind services or cash match to pilot its solution in New York City.

- **Other Considerations & Helpful Info**

To review the overall city strategic transportation plan, please go [here](#). To review the traffic data provided on NYC Open Data, go [here](#).